

Université de Montréal

**Noticeability of corrective feedback, L2 development and
learner beliefs**

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Noticeability of corrective feedback, L2 development and learner beliefs

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Résumé

Cette étude quasi-expérimentale a pour but de 1) comparer la prise en compte et les effets de trois conditions rétroactives, à savoir la reformulation, l'incitation et un mélange des deux techniques, 2) déterminer le lien entre la prise en compte et l'apprentissage, et 3) identifier l'effet des perceptions des apprenants quant à la rétroaction corrective sur la prise en compte et l'apprentissage.

Quatre groupes d'apprenants d'anglais langue seconde ainsi que leurs enseignants provenant d'un CEGEP francophone de l'île de Montréal ont participé à cette étude. Chaque enseignant a été assigné à une condition rétroactive expérimentale qui correspondait le plus à ses pratiques rétroactives habituelles. La chercheure a assuré l'intervention auprès du groupe contrôle. L'utilisation du passé et de la phrase interrogative était ciblée durant l'intervention expérimentale. Des protocoles de pensée à haute voix ainsi qu'un questionnaire ont été utilisés pour mesurer la prise en compte de la rétroaction corrective. Des tâches de description d'images et d'identification des différences entre les images ont été administrées avant l'intervention (pré-test), immédiatement après l'intervention (post-test immédiat) et 8 semaines plus tard (post-test différé) afin d'évaluer les effets des différentes conditions rétroactives sur l'apprentissage des formes cibles. Un questionnaire a été administré pour identifier les perceptions des apprenants quant à la rétroaction corrective.

En termes de prise en compte, les résultats indiquent que les participants sont en mesure de remarquer la rétroaction dépendamment de la forme cible (les erreurs dans l'utilisation du passé sont détectées plus que les erreurs d'utilisation de la phrase interrogative) et de la technique rétroactive utilisée (l'incitation et le mélange d'incitation et de reformulations sont plus détectés plus que la reformulation). En ce qui a trait à l'apprentissage, l'utilisation du passé en général est marquée par plus de développement que celle de la phrase

interrogative, mais il n'y avait aucune différence entre les groupes. Le lien direct entre la prise en compte et l'apprentissage ne pouvait pas être explicitement établi. Pendant que la statistique inférentielle a suggéré une relation minimale entre la prise en compte du passé et son apprentissage, mais aucune relation entre la prise en compte de la phrase interrogative et son apprentissage, les analyses qualitatives ont montrés à une association entre la prise en compte et l'apprentissage (sur les deux cibles) pour certains étudiants et augmentations sans prise en compte pour d'autres. Finalement, l'analyse factorielle du questionnaire indique la présence de quatre facteurs principaux, à savoir l'importance de la rétroaction corrective, la reformulation, l'incitation et les effets affectifs de la rétroaction. Deux de ces facteurs ont un effet modérateur sur la prise en compte de la rétroaction sans, toutefois, avoir d'impact sur l'apprentissage.

Mots-clés: prise en compte, apprentissage des langues secondes, rétroaction corrective, reformulation, incitation, perceptions des apprenants, anglais langue seconde

Abstract

This quasi-experimental study sought to investigate the often assumed yet little investigated relationship between noticing of corrective feedback (CF) and L2 development in relation to learner beliefs about error correction. Specifically, it aimed to (1) uncover the noticeability and effectiveness of three CF techniques (namely, recasts, prompts, a combination of the two) (2) to determine a relationship between noticing of CF and learning of the past tense and questions in the past, and (3) to determine whether learner beliefs about CF mediate what is noticed and learned in the language classroom.

The participants were four groups of high-beginner college level francophone ESL learners ($n = 99$) and their teachers. Each teacher was assigned to a treatment condition that fit his CF style, but the researcher taught the controls. CF was provided to learners in response to their production problems with the simple past and questions in the past. While noticing of CF was assessed through immediate recall and questionnaire responses, learning outcomes were measured by way of picture description and spot the differences tasks administered through a pre-test, post-test, and delayed post-test design. Learner beliefs about CF were probed by means of a 40-item questionnaire. To elicit the learner and teacher perspectives on the study, semi-structured interviews were held with the three teachers and 20 learners, drawn randomly from the participating classes.

The results indicated that the noticeability of CF is dependent on the grammatical target it addresses (i.e., feedback on past tense errors was noticed more) and that the feedback techniques that push learners to self-correct alone or in combination with target exemplars are more effective in bringing out the corrective intent of a feedback move. In relation to the learning outcomes, the overall past tense accuracy increased more than that for questions, but there were no differences between the groups. The direct link between noticing and

learning could not be unequivocally established. While the inferential statistics suggested a minimal relationship between noticing and past tense scores, especially if the CF was provided with recasts, but no relationship between noticing and questions scores, the qualitative analyses pointed to an association between noticing and test scores (on both targets) for some learners and gains without noticing for others. Finally, in relation to the beliefs about CF, the participants' responses centered on four common themes (the importance of oral CF, recasts as CF technique, prompts as CF technique, and affective consequences of CF), two of which mediated the noticeability of the supplied CF, but none impacted the learning outcomes.

Keywords: noticing, L2 development, corrective feedback, recasts, prompts, learner beliefs, English as a second language (ESL)

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Introduction

Second language (L2) acquisition researchers (Schmidt, 1990; Long, 1996) maintain that attention to form plays an integral role in learning a second language. Corrective feedback (CF) is seen as one way to draw attention to form (Lightbown, 1998) since correcting learner error when it is made juxtaposes the interlanguage form and the L2 norm. Positive effects of such comparison, however, are contingent on learner recognition of the corrective intent behind CF. Although the extent to which learners are able to notice CF has received some attention (e.g., Egi, 2007; Philp, 2003), only a handful of studies have addressed the link between noticing of CF and L2 development (e.g., Nabei & Swain, 2002; Mackey, 2006), warranting additional investigations. Furthermore, research into individual factors that may mediate noticing is scarce (Mackey *et al.*, 2002; Philp, 2003). The need to investigate learner characteristics as mediators of what CF is noticed and consecutively, learned from, is justified by multiple calls (Russell & Spada, 2006) for such investigations.

This study empirically investigated the noticeability and effectiveness of three CF techniques (recasts, prompts, and a mixture of the two), determined whether noticing leads to L2 learning outcomes, and assessed the mediating factor of learner beliefs about CF on such noticing and learning. The results point to an interesting and multifaceted relationship between feedback, noticing, L2 development, and learner beliefs, which are posed to inform the pedagogical practices of language professionals.

Chapter 1 situates the study within a wider context by outlining the problem that it aims to address. Specifically, it briefly presents the theoretical framework that motivated this research, outlines the areas that require investigation, formulates arguments for such research and situates it within the Quebec context. Finally, the chapter discusses the empirical and pedagogical

contributions the study is posed to bring to the field in general and the teaching of ESL in particular.

Chapter 2 reviews the literature necessary to set a background to the current investigation. The definition of corrective feedback (CF) and its types are presented first. Then, the major second language (L2) theories, highlighting their respective views about CF in general and the different corrective techniques in particular, are described. Next, the theoretical importance of noticing in the acquisition of an L2 in general and in regards to CF is discussed, followed by an examination of empirical findings about the noticeability of feedback. After that, the research on the effectiveness of CF is described. This is followed by an analysis of the research that looked at the relationship between noticing and learning. Finally, a case for the need to study learner beliefs about CF as they relate to the noticeability of CF and learning outcomes is made. The research questions that guide the study are stated at the end.

Chapter 3 describes the design of the study. In particular, this chapter details the research context, participants, feedback conditions, target features, the instructional intervention, data collection tools as well as the types of data analysis undertaken.

Chapter 4 reports the results of the analyses as they relate to each of the three questions investigated in this research. The findings on the noticeability and effectiveness of CF are presented first, followed by the results on the relationship between noticing and learning. The results of what the participants believe about CF are presented next. The outcomes of the correlation analyses on the learners' reports of noticing and their beliefs about CF as well as on their learning outcomes and beliefs conclude the chapter.

The findings that emerged in the course of this study are discussed in Chapter 5. The chapter ends with a discussion on the implications and limitations of the investigation and future research directions.

Chapter 1: Statement of the problem

Although French is the official language of Quebec, English is attributed an important role in the daily activities of the residents in the province. This is due to Quebec's geographical location, the presence of an Anglophone community, and easy access to English media and products. The necessity to communicate in English is underscored further by the changing realities of the workplace and the demands these pose on the education system in place. To ensure that the teaching of English as a Second Language (ESL) stays abreast of the developments taking place in the real world, the Quebec's Ministry of Education, Leisure and Sport (MELS)¹ along with program designers, researchers, and teachers strive to ensure that the program develops the competencies necessary for students in the province's schools and colleges to function fully and effectively in English. In fact, there have been several overhauls in the way languages, specifically English, are taught in the province. Starting with the 1980s when the Communicative Language Teaching (CLT), especially the strong version, came into use with its focus on meaning alone, language teachers were instructed to concentrate solely on the message transmission, foregoing any need to look at its formal properties. When the effectiveness of this approach was empirically investigated, it became apparent that the graduates of such classes performed better on reading and listening skills, but failed to achieve native-like accuracy in writing and speaking (Swain, 1984; Lightbown & Spada, 1990, 1994). This low grammatical competence was attributed to the lack of formal focus on the study of second language (L2) norms in communicative programs.

Indeed, several researchers in the field of second language acquisition (Schmidt, 1990, 1995, 2001; Long, 1996; Long & Robinson, 1998; Robinson, 1995, 2001, 2003) have maintained that attention to form plays an important role in learning a second language (L2). Schmidt (1990, 1995, 2001), in

particular, has claimed that it is the conscious *noticing* of the formal aspects of L2 in the input that allows learners to gain awareness of the target forms (i.e., the input becomes intake), which in turn, helps them to monitor the accuracy of their language production. Form-focused instruction (FFI), defined as “pedagogical events which occur within meaning-based approaches to L2 instruction, in which a focus on language is provided in either spontaneous or predetermined ways” (Spada, 1997, p. 73), is believed to promote such noticing. This type of instruction allows teachers not only to react to learners’ errors as they occur in communication (i.e., corrective feedback), but also to pre-plan activities that focus on remedying any form-related issue(s) their students may face in the learning process (i.e., pro-active or pre-emptive grammar teaching). Provision of corrective feedback - “any reaction of the teacher which clearly transforms, disapprovingly refers to, or demands improvement of the learner’s utterance” (Chaudron, 1977, p. 31) – in response to learners’ errors facilitates their noticing of the difference between their incorrect utterance and the target form, consecutively leading to L2 development. For feedback to be effective, however, learners need to recognize its didactic focus (Carroll, 1995). This is achieved when learners understand the corrective intent behind the feedback, which is evidenced by the realization that the feedback is concerned with grammatical correctness and aims to alert to the problem of form in the utterance, prompting learners to recognize the L2 norm and/ or remedy the inaccuracy.

Much interest about the concept of corrective feedback has, in the last fifteen years, produced an immense body of research that has considered the issue from many facets. These include: the place corrective feedback occupies in L2 classrooms (Chaudron, 1977; DeKeyser, 1993; Long, 1991, 1996; Lightbown, 1998; Doughty & Williams, 1998), types of feedback (Lyster & Ranta, 1997; Lyster, 1999) and their in-classroom distribution (e.g., Lyster &

Ranta, 1997; Panova & Lyster, 2002; Sheen, 2004), the effectiveness of such techniques (e.g., Ammar & Spada, 2006; DeKeyser, 1993; Doughty & Varela, 1998; Lightbown & Spada, 1990; Lyster, 2004; Ellis, Loewen, & Erlam, 2006; Yang & Lyster, 2010), and the noticeability of CF (e.g., Egi, 2007b; Kim & Han, 2007; Mackey, Gass & McDonough, 2000; Mackey, Philp, Egi, Fujii & Tasumi, 2002; Philp, 2003; Trofimovich, Ammar, & Gatbonton, 2007; Ammar & Sato, 2010). In light of this research and its findings, the English as a Second Language (ESL) program put out by MELS has officially attributed corrective feedback a prominent role in the language acquisition process, saying that:

Students develop their knowledge and use of language conventions when they take risks, experiment with English in a variety of meaningful situations, receive appropriate feedback, focus on their errors, and make a conscious effort to use the accurate form in future interactions and texts. They also benefit from corrective feedback and form-focused activities that correspond to their immediate needs, and are presented within the context of learning and evaluation of situations. Errors of form are a normal part of language learning. Students will often overuse newly learned elements, use them at inappropriate times and may even temporarily regress in their learning; this is all part of second language development.

(Programme de formation de l'école québécoise, Domaine de langues, English as a Second Language, 2007c, p. 40)

In fact, the 2007 description of the ESL program for high school reinforces the importance of corrective feedback by devoting entire sections to defining “Focus on Form” and “proactive teaching”, explaining ways in which teachers and learners are to focus on accuracy, and highlighting the usefulness of “noticing (of) form”. This focus on accuracy points to the fact that today’s teachers are not only expected to provide correction to learner errors but are also required to have an understanding of the theoretical underpinnings of the concept. What’s more, the program outlines techniques that are seen as

effective in the task of correcting. Taken from the Lyster and Ranta's (1997) taxonomy of CF techniques, these include "elicitation", "clarification requests", "metalinguistic feedback", and "repetition" (Programme de formation de l'école québécoise, Domaine de langues, English as a Second Language, 2007, p. 41), all of which require that, in response to teacher's signal, learners correct their own errors. It is hoped that provision of CF along with the Form-focused instruction will help learners to notice irregularities in their interlanguage. Specifically, what the program claims to focus on is making the corrective process meaningful for learners so that by noticing the differences between their productions and the target form, they are able to better understand how a form and its function contribute to the meaning of a message, consecutively, increasing the accuracy with which they communicate.

Yet, if conscious noticing is indeed necessary for the language acquisition process, then the question of whether learners are able to notice corrective feedback needs to be posed. Much of the research done on the noticeability of feedback has, to date, mainly focused on the noticeability of *recasts* – teacher's error-free reformulations of learners' erroneous utterances – suggesting that their detection is limited by a number of factors (Mackey, Gass, & McDonough, 2000; Trofimovich, Ammar, & Gatbonton, 2007; Egi, 2007; Kim & Han, 2007; Philp, 2003; Mackey, Mackey, Philp, Egi, Fuji, & Tasumi, 2002). Mackey, Gass, and McDonough (2000), for example, found that while learners struggle to notice recasts that target errors in morphosyntax, they are more able to perceive those that target phonological and lexical inaccuracies (see also Lyster, 2001; Carpenter, Jeon, MacGregor, & Mackey, 2006; Han, 2008); a similar finding was later confirmed by Trofimovich, Ammar and Gatbonton (2007), where learners who received recasts in response to their lexical and morphosyntactic errors noticed the former type of errors more readily than the latter. The length of a recast also seems to affect its

noticeability in that recasts that are short (Egi, 2007; Kim & Han, 2007) and/ or address a minimal number of errors are noticed more than longer recasts (Philp, 2003). Furthermore, higher proficiency learners appear not only to identify the corrective intent of recasts more readily than those with lower proficiency (Philp, 2003), but also tend to respond to recasts more accurately than their lower proficiency counterparts (Mackey & Philp, 1998; Ammar & Spada, 2006; Trofimovich *et al.*, 2007). Adult learners with larger spans of working and phonological memory (Mackey *et al.*, 2002) were also found to notice more recasts than learners with smaller memory spans. In their investigation of the relationship between four cognitive individual differences (i.e., proficiency level, attention span, phonological memory, working memory, and analytical ability) and adult learners' (mean age: 30.4) ability to notice and benefit from recasts, Trofimovich *et al.* (2007) found that none of the cognitive variables investigated predicted noticing but that three of the factors (phonological memory, attention control, analytical ability) determined the effectiveness of recasts in leading to learners' accuracy at producing the targeted grammar feature (English possessive determiners). In other words, the findings seemed to point to an association between large phonological memory, effective attention control, and strong analytical ability and learners' accurate production of the grammar targets after receiving feedback in the form of a recast. These findings suggest that although the investigated individual differences did not predict noticeability of feedback, they (specifically, attention control and analytical ability) appear to play a role in increasing the usefulness of recasts.

In a recent study, Ammar and Sato (2010a), however, found attention control to affect the overall noticing and learning. The researchers looked at how explicit versus implicit recasts contribute to the noticeability and effectiveness of feedback provided in response to errors with questions, the past tense, and possessive determiners. Two groups of 11-12 year old French L1

primary school learners of English ($n = 53$) completed seven activities targeting the three morphosyntactic targets, participated in online (during the activities) as well as stimulated recall (one day after the intervention) measures of noticing, and took tests of attention switching capacity, perceptual speed, phonological memory and analytical ability to determine the effect these may have on the learners' individual ability to benefit from recasts. The findings showed that, on the one hand, explicit recasts were noticed more and led to more L2 knowledge gains than implicit recasts, and that noticing predicted learning, especially when measured by online recall, on the other. In terms of the individual differences, attention switching capacity – defined as the ability to maintain focus on a task and to alternate attention between two simultaneous tasks - was the only variable that related to overall noticing and overall learning, and seemed to relate to the development of the implicit but not the explicit group. This result suggests that learners with effective attention switching capacity are able to recognize the corrective intent of recasts more readily than those with a less effective ability, and to benefit from it as a result. It then stands to question the discrepancy in the results of these two seemingly similar in design yet different in outcomes studies. The explanation may lie in two factors: age and the noticing measure used. The participants in the Trofimovich *et al.* (2007) study were adult monolingual speakers of French, while those in Ammar and Sato (2010) investigation were francophone children learning English as part of the school curriculum. In terms of the noticing measure, Trofimovich *et al.* used computerized online recall, which was supplied regardless of whether or not the learner recognized the intent behind the provided recast, Mackey *et al.* (2002) used only the stimulated recall measure, but Ammar and Sato used both ways to measure noticing: immediate (online) and delayed (stimulated) recall protocols. These studies have, hence, shown that the length (Egi, 2007; Kim & Han, 2007), complexity (Philp, 2003),

and type (Mackey *et al.*, 2000) of recasts render them noticeable by learners, and that this noticing is dependent on the differences in learner proficiency level (Philp, 2003), working and phonological memory (Mackey *et al.*, 2002), and attention switching capacity (Ammar & Sato, 2010a).

What this research, with the exception of Mackey *et al.* (2000), does not address is the noticeability of other feedback types. Mackey *et al.* (2000) were perhaps the first to compare the noticeability of recasts to that of another type of CF, namely, negotiation of meaning (which include clarification requests (*What? What did you say?*), confirmation checks (*Is that what you mean?*), and comprehension checks (*Did you understand?*), Mackey *et al.*, 2000, p. 472). They found that feedback delivered through negotiation techniques allowed for the noticing of morphosyntactic and phonological errors, but the noticing rates were not systematically compared with those for recasts. Drawing on the need for systematic comparisons, Ammar (2008) designed a study to compare the noticeability of recasts and *prompts* (Lyster, 2004, 2007; Ranta & Lyster, 2007) – corrective signals of error presence that encourage learners to self-repair – as a function of processing speed, phonological memory, attention control, and analytical ability. The results indicated that, overall, prompts were noticed more than recasts and that this noticing (of prompts) was not dependent on any of the four cognitive variables under investigation. The study design, which made prompts more salient, was offered as a reason why the examined individual factors did not yield any association with the noticing of prompts. This finding suggests that additional inquiry into qualitative differences among individual learners in relation to the noticeability of different feedback types is necessary.

The need to look at individual differences as mediators of what corrective feedback is noticed, and consecutively, learned from by language learners in the classroom is justified by a number of factors. First, a number of calls for the need of such a research have surfaced in the SLA literature (e.g.,

Russell & Spada, 2006; Lyster & Saito, 2010), with Russell and Spada (2006) urging that “few studies have investigated the impact of individual learner factors in relation to CF... [and that] until more studies are done to isolate these variables and investigate them in a series of studies in classrooms and laboratories, they remain compelling arguments without adequate supporting evidence” (p. 155). Second, the studies that have considered cognitive differences as mediating factors in the noticeability of feedback are few in number, and while the evidence they provide is intriguing, more studies on the subject are needed to probe the complex relationship between learning and individual differences. Furthermore, learner characteristics studied in these investigations were based on learners’ linguistic knowledge of L2 (i.e., proficiency level) and such cognitive abilities as working memory capacity, attention control, analytical ability, and processing speed, but they have not considered other learner characteristics such as anxiety, creativity, willingness to communicate, self-esteem and learner beliefs, all of which “have important theoretical and practical potential [... but require research] to do them full justice” (Dörnyei, 2005, p. 197).

The present study is an attempt to systematically compare the noticeability and benefits of recasts to that of prompts and to determine whether such noticing is a function of learner beliefs, defined as learners’ metacognitive knowledge about learning (Wenden, 1999). Consideration of learner beliefs, in general, is an important one for beliefs “have been recognized as learner characteristics to count with when explaining learning outcomes” (Dörnyei, 2005, p. 214) and have empirically been shown to be constant among learners and consistent across different language groups (Horwitz, 1985, 1987, 1988). Investigation into learner beliefs about corrective feedback, in particular, is necessary because, to date, no published investigations have considered learners’ perceptions of what corrective feedback is, how it is best delivered,

and the factors that make it effective. The need to look at the issue of learner beliefs about corrective feedback is also precipitated by the focus of the currently popular Communicative Language Teaching (CLT) and the place of corrective feedback within it. Since the communicative approach places heavy emphasis on meaning, some teachers tend to avoid corrective feedback altogether, citing the fear of interrupting the communicative flow or evoking such negative affective consequences as anxiety and a decrease in motivation (Krashen, 1981, 1994; Truscott, 1999) in their learners as the reasons. Others, who choose to provide feedback, tend to resort primarily to one technique - namely, recasts - overlooking the rest (Lyster & Ranta, 1997; Sheen, 2004) and often struggle to consistently provide feedback in response to certain linguistic targets (Nicholas *et al.*, 2001). The danger with such practice lays in a possible mismatch between teacher preference and student expectations, which may negatively influence the learning process as a whole and lead to a decrease in learner motivation as well as a slump to teacher's credibility (Horwitz, 1990; Schulz, 1996, 2001). That is, according to Schulz (1996; 2001), if the teacher's preferred corrective technique does not correspond to a student's expectations and beliefs about corrective feedback, the student is likely not to notice the teacher's correction of form and, as a result, will not benefit from the feedback, a claim that has not been empirically tested. The need to investigate learner beliefs about CF takes on added prevalence in the context of Quebec, where the current educational program requires that teachers supply feedback in the form of prompts, but not recasts². It would be interesting to see whether language learners share in this approach, and most importantly, if learning outcomes reflect the use of these corrective techniques.

Previous research on beliefs has shown that teacher perceptions guide their in-class practices and that the level of motivation (Huang, 2006; Peacock, 1998) and engagement (Schulz, 2001; Kern, 1995) that a learner shows towards

the task of learning, in large part, depends on his/her beliefs about language and language learning. In addition, learner beliefs affect student L2 learning in terms of achievement, aptitude, selection and use of learning strategies selected, as well as the level of anxiety one feels during the task of learning (Horwitz, 1985; 1987; 1988; 1999; Breen, 2001; Fox, 1993; Mori, 1999). Learner beliefs have been found to lead to individual differences in learning overall (Yang, 1999) and in L2 learning, in particular (Dörnyei, 2005; Kalaja & Barcelos, 2005). This is because learner beliefs are “highly individual, relatively stable, and relatively enduring” (Grotjahn, 1991, p. 189), and as such, might help to predict and explain behaviors learners demonstrate when learning a second language (Grotjahn, 1991). Given the prominence of learner beliefs in the task of L2 learning, this investigation will consider whether noticing and learning of the two CF types (i.e., recasts and prompts) is dependent on how the participants perceive corrective feedback in general and its techniques in particular. The need for such a focus is precipitated by the fact that, to date, only a handful of descriptive studies have looked into learner beliefs about corrective feedback as a whole (e.g., Schulz, 1996; 2001; Horwitz, 1988; 1990; Fox, 1993; Loewen *et al.*, 2009), but none have considered the importance learners attribute to specific corrective techniques as well as the impact these beliefs may have on the learners’ noticing and subsequent acquisition of L2 forms.

The effectiveness of different CF techniques has proven to be a prolific area of investigation, with studies conducted in both classroom and laboratory settings. In the laboratory context, recasts have been shown to lead to gains in L2 development. These investigations, however, have often compared recasts either to a control group that was not receiving feedback at all (Han, 2002; McDonough & Mackey, 2006) or to groups interacting without recasts (Mackey & Philp, 1998; Iwashita, 2003). Many in the field have questioned the

reliability of findings yielded by the studies carried out in laboratories (Nicholas *et al.*, 2001; Ellis & Sheen, 2006; Mackey & Goo, 2007), pointing to a number of concerns (please see Chapter 2 for more details). Some classroom studies compared prompts to recasts to find that the former type of feedback proved more effective than the latter on long-term language outcomes (Lyster, 2004; Ammar & Spada, 2006; Ellis *et al.*, 2006). In a form-focused empirical investigation on the acquisition of grammatical gender in French by young immersion learners, Lyster (2004), for example, compared the effectiveness of three conditions: prompts, recasts, and instruction only (i.e., no feedback supplied). Having administered eight proficiency measures immediately after the initial instructional unit and then again two months later, Lyster found that the “prompt” group outperformed the other two on all the eight measures. The “recast” group, in turn, was significantly better than the controls on five measures, whereas the “instruction only” condition surpassed the controls on only four out of the eight measures, suggesting that recasts were more effective than no feedback at all. Investigating the effectiveness of feedback in the intensive ESL classrooms, Ammar and Spada (2006) studied acquisition of English third person possessive determiners by French L1 sixth-grade students. After receiving form-focused instruction on the feature in question, the participants were divided into three groups in accordance with the feedback type they were exposed to: recasts, prompts, no feedback. The results of this pre-test, immediate post-test and delayed post-test design indicated that while all groups benefited from the initial form-focused instruction, the two feedback conditions significantly outperformed the control group on the two post tests, with the “prompt” condition surpassing the “recast” group each time. Finally, Ellis *et al.* (2006) investigated the effectiveness of recasts versus prompts on the acquisition of the English simple past tense among adult ESL learners. Here, prompts were defined as a repetition plus a metalinguistic clue and were

found to be significantly more effective than the recasts on the delayed post-test.

In light of the above, it is necessary to examine learner beliefs about corrective feedback and to determine whether these beliefs guide learners' noticing and learning of the formal properties of L2. If the beliefs do, in fact, influence L2 learning, then there could be a link between beliefs and noticing on the one hand, and beliefs and learning on the other. Furthermore, since researchers generally agree that corrective feedback is associated with L2 learning because it triggers learners to notice the gaps between their language production (i.e., interlanguage) and the target norms, it is reasonable to assume that a relationship between noticing and learning can exist. In fact, the existence of such a relationship has, up to now, been explored by a small number of studies (Nabei & Swain, 2002; Mackey, 2006; Egi, 2007b; Kim & Han, 2007; Ammar & Sato, 2010b), warranting additional investigations. While these studies evidence a positive link between noticing of CF and L2 learning, they did not consider whether certain individual characteristics made this relationship possible. The research into individual differences, in turn, has revealed that noticing of feedback depends on learners' proficiency level, working memory, and attention capacity, but has not considered looking at such affective variables as learner beliefs. Hence, it makes sense to wonder whether differences in learner perceptions about CF mediate learners' ability to notice and learn from the feedback they receive in the classroom.

The goals of this study are, then, (1) to compare the noticeability and effectiveness of recasts and prompts, (2) to identify a possible relationship between noticing of CF and language learning, and (3) to determine whether learner beliefs about CF mediate what is noticed and learned in the language classroom. The findings of this study will provide additional evidence for the noticeability and efficacy of the two types of CF (namely, recasts and prompts),

inform our understanding of learner beliefs about corrective feedback, identify a link between these beliefs and learning outcomes, and serve as a springboard to further research in the area. While implications of these findings will be useful to the language teaching community at large, they could prove to be of special value to the ESL program designers, professionals, and learners in the province of Quebec, where improvements to the teaching of English are in constant pursuit.

Chapter 2: Literature review

The purpose of this chapter is to review the literature necessary to set a background to the current investigation. Specifically, this five-part analysis will first define corrective feedback (CF) and identify its types. It will then consider the major second language (L2) theories, highlighting their respective views about CF in general and the different corrective techniques in particular. After that, the theoretical importance of noticing in the acquisition of an L2 (as championed by Schmidt) in general and in regards to CF will be discussed, followed by an examination of empirical findings about the noticeability of feedback. Next, focusing on the studies conducted in second language research, the effectiveness of CF on language learning will be assessed, followed by an analysis of the research that looks at the relationship between the noticing of CF and L2 learning. Finally, a case for the need to study learner beliefs about CF as they relate to the noticeability and consecutively, the effectiveness of feedback, will be made. The research questions addressed by this study will be stated at the end.

2.1 Corrective feedback

Different terminology has been used to define and operationalize “corrective feedback”. Despite the differences in their original definitions the literature on the subject has often used the terms “negative evidence”, “negative feedback”, “error correction” and “corrective feedback” interchangeably. To avoid possible confusion this practice may cause, it is necessary to describe and define each term. The concept of “negative evidence” arises from the two types of input language learners are generally exposed to when learning L2: positive evidence and negative evidence. While positive evidence provides learners with models of what is possible and grammatically acceptable in the target language, negative evidence supplies learners with information about what is unacceptable in L2 (Long 1996; 2006). Negative evidence can be either direct

or indirect. While *direct* negative evidence refers to a teacher's reaction to an error³ to attract the learner's attention to it, *indirect* negative evidence provides learners with signals that a certain construction is not possible in L2 due to its absence from input (Chomsky, 1981). In light of this, negative feedback - "any reaction of the teacher which clearly transforms, disapprovingly refers to, or demands improvement of the learner's utterance" (Chaudron, 1977, p. 31) - is a subset of *direct* negative evidence, not its counterpart. However, when corrective feedback is defined as "any indication to the learner [by the teacher] that his/ her use of the target language is incorrect" (Lightbown & Spada, 2006, p. 197), it can be equated to negative feedback, and the two terms may be used interchangeably. Hence, negative/ corrective feedback may be explicit and include metalinguistic explanation (e.g., overt error correction) or implicit and range from mere silence or expression of confusion to confirmation checks and recasts. Finally, it is important to note that "corrective feedback" is not the same as "error correction" and should not be used interchangeably. According to Chaudron (1977), the term "error correction" is used to refer to corrective moves that lead to repair of the non-targetlike forms. Corrective feedback, on the other hand, simply signals the presence of an error (in hopes of repair). In this current study, in line with Carroll and Swain's (1993) definition, corrective feedback will be operationalized as any teacher move (explicit or implicit) whose aim is to warn the learner about the presence of an error.

Recasts, explicit feedback, elicitation, metalinguistic feedback, repetition, and clarification requests are all different CF techniques that have been used in the literature to refer to the ways in which feedback can be provided. The techniques, originally coded by Chaudron (1977), represent the taxonomy developed by Lyster & Ranta (1997) for the L2 classroom and are outlined in Table 1. The six feedback techniques were first re-classified by Lyster (2004) into three categories of (1) recasts, (2) explicit correction, and (3) prompts, and most recently regrouped again into "reformulations" and "prompts" by Ranta and Lyster (2007). Recasts and explicit correction were

categorized together under “reformulations” because they both supply the learner with either an implicit or explicit reformulation of the target form and are thus input-providing. The “prompt” category (formerly referred to as “negotiation of form”, Lyster & Ranta, 1997), in turn, is made of four output-promoting corrective techniques, namely, metalinguistic feedback, elicitation, repetition, and clarification request, all of which are designed to push learners to recognize the corrective intent of CF and to help them fix the error on their own, subsequently correcting it. It is, however, important to remember that each category can differ greatly in terms of implementation and the degree of explicitness/ implicitness of the technique (as dictated by the context)⁴.

Table 1

Corrective Feedback Techniques, based on Lyster & Ranta (1997)

| | Technique | Definition | Example | |
|------------------------------|-------------------------|--|---|------------------|
| Teacher corrects | Recasts | "Teacher's reformulation of all or part of a S's utterance minus the error" (p. 46). | In response to a student's incorrect statement of "I have many <i>book</i> ", the teacher may recast as follows "Oh, you have many <i>books</i> ." | |
| | Explicit Correction | "Explicit provision of the correct form" by the teacher (p. 46). | Student: "I have many <i>book</i> "; Teacher: "We don't say <i>book</i> [stressed]. You should say <i>books</i> [stressed]." | |
| Student self-corrects | Metalinguistic Feedback | "Contains comments, information or questions related to the well-formedness of the S's utterance, without explicitly providing the correct form" (p. 47). | Student: "I have many <i>book</i> "; Teacher: "No, not <i>book</i> [stressed]. It's supposed to be in plural. How do we form plural in English?" | "PROMPTS" |
| | Elicitation | Teachers either: (1) elicit "completion of their own utterance by strategically pausing to allow Ss to fill in the blank, (2) use "questions to elicit correct forms", or (3) ask Ss to "reformulate their utterance" (p. 48). | Student: "He like <i>coffee</i> "; Teacher: "He <i>what</i> [stressed] <i>coffee</i> ?" | |
| | Repetition | "Teacher's repetition, in isolation, of the S's erroneous utterance" (p. 48). | Student: "I see a movie <i>yesterday</i> "; Teacher: "I see [stressed] a movie <i>yesterday</i> [stressed]?" | |
| | Clarification Requests | "Indicates to Ss either that their utterance has been misunderstood by the teacher or that the utterance is ill-formed in some way and that a repetition or reformulation is required" (p. 47). | Student: "He like <i>coffee</i> "; Teacher: "Pardon me?" | |

2.2 Second language learning theories and CF

A number of theories (as many as 60, according to some accounts (e.g., Long, 1993; 2006) that strive to explain the nature of L2 knowledge, the nature of interlanguage development, the contributions of knowledge of the first language (L1), the linguistic environment, instruction (Ortega, 2009) as well as “*the*” L2 acquisition process itself have been proposed in the last forty years. Although they vary in a number of ways – from source to scope, content, type, and form (Long, 2006) – these theories provide SLA scholars with “interim understandings of natural phenomena [...] in the absence of certainty” (Long, 2006, p. 22) and as such, are instrumental in identifying not only the pertinent variables to study, but also, in suggesting foci for future research inquiry.

Corrective feedback is one such variable. Its relevance lies in the awareness-raising role it is believed to play in the L2 acquisition process. Its prominence is evidenced by a large body of research conducted on CF in and out of the classroom. Since the mid 90s, studies investigating CF seem to be focused on three areas of interest: (1) different feedback techniques and their distribution (e.g., Lyster & Ranta, 1997; Panova & Lyster, 2002; Sheen, 2004), (2) the noticeability of these techniques (Egi, 2007a; Kim & Han, 2007; Mackey, Gass & McDonough, 2000; Mackey, Philp, Egi, Fujii & Tasumi, 2002; Philp, 2003; and Trofimovich, Ammar, & Gatbonton, 2007 for research using recall protocols, and Lyster & Ranta, 1997; Panova & Lyster, 2002; and Sheen, 2004 for uptake research; Lai & Zhao, 2006, for online chat research), and (3) the effectiveness of CF and various feedback types on second language acquisition (e.g., Ammar, 2008; Ammar & Spada, 2006; Doughty & Varela, 1998; Ellis, Loewen & Erlam, 2006; Lyster, 2004; Sheen, 2007; for classroom research, and Carroll & Swain, 1993; Han, 2002; Ishida, 2004; Iwashita, 2003; Leeman, 2003; Long, Inagaki & Ortega, 1998; Lyster & Izquierdo, 2009; Mackey & Philp, 1998; and McDonough, 2005, 2007 for laboratory research).

The studies in the first area of interest have researched the types of feedback teachers and learners use during the task of language learning, the frequency with which these techniques are employed, and the amount of uptake they generate. Lyster and Ranta (1997) defined “uptake” as the learner’s immediate response to the teacher’s feedback. Uptake can occur in the form of “repair” or “needs repair”. While the “repair” episodes are usually evidenced by the learner’s repetition of the correct form or self-/peer-correction, the “needs repair” instances are occurrences in which the learner fails to provide the target form and as such, requires additional feedback. This body of research has revealed that while recasts are used the most in second and foreign language contexts alike (Lyster & Ranta, 1997; Lyster, 1998a, 1998b; Sheen, 2004), they lead to the least amount of uptake and successful repair. When, however, recasts are made explicit⁵, they result in higher levels of uptake than do implicit recasts (Lyster, 1998a; Sheen, 2006; Nassaji, 2009). What’s more, instructional context has been found to play a role in the amount of uptake and repair generated following recasts (Sheen, 2004; Oliver, 2000). Sheen (2004), for example, found that the rate with which learners reacted to their teachers’ recasts was higher in the Korean EFL and the New Zealand ESL contexts than in the Canadian ESL and French immersion contexts. The difference in the rate of uptake had to do with the fact that the first two contexts were more form-oriented - where the learners expected attention to form as part of their classes and consequently, were attuned to the corrective intent behind the teacher’s reactions - whereas the latter two programs were more meaning-oriented and as such, reduced the saliency of recasts as feedback moves.

The second area of investigation has focused on the fact that corrective feedback is seen as an effective tool to facilitate noticing of errors a student makes when speaking an L2. The importance of this role is grounded in the belief among several researchers (Schmidt, 1990, 2001; Long, 1996; Long & Robinson, 1998; VanPatten, 2007) that attention to form plays an important role

in learning an L2. Schmidt (1990, 1994), in particular, has claimed that it is the conscious *noticing* of the formal aspects of L2 in the input that allows learners to turn input into intake, and to eventually learn these features, provided that the intake is processed in working memory. Processing of the noticed forms - “mapping meaning and function onto formal properties of language” (VanPatten, 2007, p. 125) – as opposed to merely noticing them is necessary to ensure learning (i.e., integration of noticed forms into long-term memory). After all, according to Schmidt (2001), “people learn about the things that they attend to and do not learn much about the things they do not attend to” (p. 30). The noticeability of CF has been examined via verbal protocols (e.g., Mackey & Philp, 1998; Philp, 2003; Mackey *et al.*, 2000; Egi, 2007a; Trofimovich *et al.*, 2007; Mackey 2006; Izumi, 2002; McDonough & Mackey, 2006), uptake (Lyster & Ranta, 1997; Mackey & Philp, 1998; Sheen, 2004), as well as questionnaires and journals (Slimani, 1989; Schmidt & Frota, 1986; Izumi, 2002; Mackey, 2006). The results indicated that, in general, learners are more likely to notice explicit types of feedback than implicit ones. While recasts are usually considered to be the implicit type of feedback, they can occur in different forms and vary in terms of explicitness (Lyster, 1998a; Sheen, 2006; Ellis & Sheen, 2006). The same is true of prompts, which are usually seen as more explicit than recasts but can be delivered in a more implicit way (Ellis *et al.*, 2006). For example, they can occur in the form of a clarification request (Loewen & Nabei, 2007), signaling focus on the meaning with no reference to the error (as in, “Pardon me?”), or be repeated with an added emphasis on the error, as often is the case with recasts (e.g., McDonough, 2005).

Finally, the third focus of investigation has centered around the effects of feedback on learning outcomes. The results indicate that, overall, presence of feedback is more advantageous than its absence for it helps in L2 learning (Russell & Spada, 2006; Mackey & Goo, 2007; Lyster & Saito, 2010). In terms of the different CF techniques, prompts seem to generate more learning in the

classroom than do recasts (e.g., Ammar & Spada, 2006; Lyster, 2004). The opposite is true for recasts that seem to bring about more learning in the laboratory context (e.g., Mackey & Philp, 1998; Leeman, 2003; Carroll & Swain, 1993). Furthermore, feedback whose intent is made explicit to learners is more effective than its implicit counterpart (Ellis *et al.*, 2006); this is especially true for recasts (Nassaji, 2009).

While the findings of these three foci of investigation are informative, they were arrived at by looking at each area separately. That is to say studies that looked into the amount of uptake generated by different types of feedback, for instance, did not empirically investigate the link between uptake and learning. Instead, armed with the uptake results, they claimed that there was a connection. Lyster and Ranta (1997), for example, argued that because recasts produce less uptake than prompts do, their effectiveness is limited. The same is true of some research on the noticeability of different feedback types. What these investigations did was draw conclusions about the effectiveness of one type over the other without providing for such a comparison in their designs (e.g., Mackey *et al.*, 2000). The aim of this study is, then, to empirically explore the relationship between noticing of feedback and learning from it as a function of learner beliefs about CF. In what follows, the major L2 acquisition theories as they relate to CF will be presented first, the noticeability and CF effectiveness research will come next, and the examination of the relationship between noticing of CF and learning outcomes will be presented last.

2.2.1 Major L2 acquisition theories and CF

Since explaining how people learn second languages is the central task of the SLA field, many a theory have been proposed to account for the phenomena particular to L2 acquisition. While the exact number of the proposed theories is of no importance, researchers generally agree on ten key theories that explain the linguistic and cognitive aspects of SLA⁶ (VanPatten &

Williams, 2007a). These include: Behaviourism, Nativism/ Innatism, Autonomous Induction Theory, Associative-Cognitive CREED Framework, Skill Acquisition Theory, Input Processing Theory, Processability Theory, Concept-Oriented Approach, Interaction Framework, and Vygotskian Sociocultural Theory. However, only those SLA theories that explain the role of error and feedback in L2 learning will be considered and explained here. The following four groups of theories - Behaviourism, Nativism/ Innatism, Interactionism, and Cognitive/ Psycholinguistic views - are believed to represent this goal well for they embody both the early and current understandings of the feedback process. The two theories (Behaviourism and Nativism/ Innatism) that have impacted the development of SLA research in general as well as shaped the present-day understanding of feedback in particular will be presented first.

2.2.1.1 Behaviourism

Within the behaviourist theory, habit formation was seen as key to learning any skill, be it linguistic in nature or not: “We have no reason to assume [...] that verbal behaviour differs in any fundamental respect from non-verbal behaviour, or that any new principles must be invoked to account for it” (Skinner, 1957, p. 10). The environment was considered the most, if not the only, important factor in learning. All behaviour was explained as a response to external factors in the environment and not as a function of internal processes. It was believed that learning resulted in acquisition of new behaviour if it consisted of imitation, practice, and appropriate feedback. While imitation of sounds and structures heard in the environment was the essential first step in learning a language, feedback on production (output) was instrumental in leading to the formation of good habits. The feedback was, in fact, a whole system called *behavioural conditioning*, which through reinforcement and punishment could train learners to engage in new behaviors (in this case, error-free L2 output). That is, positive feedback (*reinforcement*) in response to an

utterance would likely result in repetition of such behavior by a learner, but negative or non-existent reaction (*punishment*) would make replication of such behavior less probable. As such, active and repeated engagement in the target behavior was considered crucial to the learning process.

The behaviourist approach to language learning and teaching was closely linked to structural linguistics⁷, which viewed language as based on a finite set of predictable patterns. Language was described and analyzed in a series of building blocks that ranged from the smallest unit of sound to complete sentences. Structural linguists aimed to describe a given language rather than explain why it (and/or its parts) operates the way that it does. Since structural linguists saw language learning as the “mastering [of] the elements or building blocks of the language and learning the rules by which these elements are combined, from phoneme to morpheme to word to phrase to sentence” (Richards & Rodgers, 2001, p. 55), it complemented the behaviourist view, which advocated “learning as the acquisition of a discrete set of behaviours” (VanPatten & Williams, 2007b, p. 20). Thus, a learner’s job was to imitate and internalize the predetermined linguistic patterns. There was little need for the learner to think about what he/she was doing since learners were seen as receivers of language, programmed to listen and repeat what they heard in as an error-free fashion as possible.

The behaviourist theory about SLA has produced a number of early implications for the field (VanPatten & Williams, 2007b). First, the L1 was considered to be the source of learner difficulty and errors. Second, this difficulty was believed to arise from the differences between the first and target languages when the two were compared. That is, the more different the languages are, the more learning difficulty and consequently, the more errors encountered in learning them. Detailed comparisons of the phonology, morphology, syntax and even the cultural systems of the two languages were systematically undertaken to determine the similarities and differences between the two. Similar structures between the languages were predicted to be “easy to

learn because they will be transferred and may function satisfactorily in the foreign language, [but] structures that are different will be difficult because when transferred they will not function satisfactorily in the foreign language and will therefore have to be changed” (Lado, 1957, p. 59). Similarities between the structures were seen as the candidates for *positive transfer* because learners would not need to change their old habits (behaviours) but would simply apply them “as is” to a new context. *Negative transfer*, on the other hand, signalled differences between the languages, resulting in learner difficulty. Difficulty in this sense was equated with errors for if a learner made an error, it was because he/she was struggling with the erroneous structure or sound due to it being complex. Such difficulty was seen as *interference* in the acquisition of new habits.

The behaviourist theory suggested direct and tangible pedagogical practices, which stressed the importance of correct models, practice, and feedback. The importance of CF lies in the belief that successful L2 learning could be achieved only through the eradication of old habits (i.e., errors) and the formation of new (good) ones. That is, errors were believed to impede the learning process. As such, teachers would not allow learners to engage in spontaneous speech, fearing that they would make errors, which, if left untreated, could develop into bad habits. Instead, teachers provided correct models, ensured abundant repetition without learner reflection, did everything to avoid errors in the student output, and provided appropriate feedback. In fact, language teachers trained in the Audiolingual Method⁸ were instructed to avoid errors at all costs (“like sin, error is to be avoided, and its influence overcome”, Nelson, 1960, p. 56). If an error did occur, the teachers were told to “correct student errors immediately, use reinforcement, use repetition and imitation till the student masters the problem” (Courchêne, 1980, p. 9). Hence, the treatment of errors was consistent, overt, and immediate. As soon as an error was made, a teacher would instantly identify its locus, explain the problem using grammatical categories (Long & Robinson, 1998), and provide additional

models of the target form. In terms of the particular CF techniques, the two methods that seem to be the most compatible with behaviourism are those that provide the learner with the correct form (i.e., recasts and explicit correction). While recasts supply learners with grammatically correct (full or partial) models of the target language, explicit feedback signals the presence of an error by providing an overt reformulation of the problem and consequently, prompting repetition of the correction.

The behaviourist stimulus-response model of language learning and the structuralist approach to language description were challenged when during the 1960s, the first language acquisition researchers (Chomsky, 1957, 1966) began to show that the linguistic system was too complex to be learned through imitation alone and that children learning their mother tongue were able to produce language (and language rules) far richer and more diverse than any sample of language they could have picked up in the input. Furthermore, regardless of the context or other external factors, all children learning their L1 appeared to acquire grammatical features in fixed orders and made only certain kinds of errors instead of all that were theoretically possible. Empirical investigations into the role of negative evidence in L1 acquisition demonstrated that, as a rule, parents rarely paid attention to the form of what their children said, but rather paid more attention to the truth value of what was said (Brown & Hanlon, 1970; Brown, 1973). These observations led researchers to believe that learning (especially, language learning) was unique and relied on an innate ability available to all humans at birth. According to Chomsky (1957), this innate ability to learn language is stimulated via the linguistic input one is exposed to. This input, in turn, shapes one's knowledge of the rules of a given language. And finally, this knowledge of the rules ("competence") allows for the production of an infinite number of sentences, a large portion of which is unique and as such, cannot be imitated or rehearsed⁹. "Language is not a habit structure. Ordinary linguistic behaviour characteristically involves innovation,

formation of new sentences and patterns in accordance with rules of great abstractness and intricacy”, Chomsky argued (1966, p. 153).

As L1 researchers were transforming the language acquisition theory, SLA researchers found that behaviourism along with Contrastive Analysis could not predict or explain the errors L2 learners make. Moreover, grammatical morpheme studies revealed that L2 learners, much like their L1 counterparts, acquired grammatical features in a consistent order and made errors that resembled those made by children learning their L1. This led them to conclude that L2 learning is not dependent on the L1, but that it is internally driven and involves unconscious testing of hypotheses derived from the L2 input. What’s more, thanks to Corder’s (1967) influential paper, *The significance of learners’ errors*, that questioned the place of error in L2 learning, errors were no longer viewed as problems. Instead, they were seen as a necessary part of language development in that they not only provide evidence of where learners are in respect to the target norms, but they also reveal the process by which L2s are acquired.

2.2.1.2 Nativism/ Innatism

The first innatist theory to be developed specifically for SLA was Stephen Krashen’s Monitor Theory¹⁰ (1982). Although Krashen has never openly stated this, many in the field believe that his theory is based on Chomsky’s theory of language (e.g., Larsen-Freeman & Long, 1991; VanPatten & Williams, 2007b; Gass & Selinker, 2001). The connection between the two lies in their shared belief that humans possess a unique innate ability to learn languages – Chomsky’s “the language acquisition device”. Krashen argued that this ability is not exclusive to L1 but that, under appropriate conditions, it can also extend to L2 attainment. According to his model, which is comprised of five interrelated hypotheses¹¹, the only thing that is needed for L2 acquisition to occur is for a learner to be exposed to comprehensible input that he/she can (1) readily process for meaning, and (2) learn from. Krashen argued that

comprehensible input is readily available to learners by means of listening and reading texts, and that if the content is relevant and learners are able to comprehend its meaning, grammar learning will happen naturally and CF will not be necessary. Krashen based this role for input on L1 acquisition research that claimed that “in order to build an L1 grammar, children only need to be exposed to the language that parents or caretakers direct them to for the purpose of meaning making” (Ortega, 2009, p. 60).

According to Krashen’s acquisition-learning hypothesis, L2 learners have two independent ways to develop L2 knowledge: subconsciously (*acquisition*) and consciously (*learning*). *Acquisition* is said to be subconscious in terms of both process and product. The process of acquisition is similar to the way children learn their L1 in that learners acquire language without being aware of it. The only thing they are aware of is that they are using the language to communicate meaning and as such, all their attention is focused on the task at hand. The result of acquisition (product) is also subconscious because “we are generally not consciously aware of the rules of the languages we have acquired. Instead, we have a “feel” for correctness. Grammatical sentences “sound” right, or “feel” right, and errors feel wrong, even if we do not consciously know what rule was violated” (Krashen, 1982, p. 10). Hence, the acquired knowledge cannot be accessed and the learner uses his/ her feeling of what is grammatical rather than using the “rule”. Unlike acquisition, *learning* is conscious in both process and product. The process of learning is arrived at via intentional study of L2 rules and patterns, resulting in explicit knowledge of “grammar” or “rules” of the language. What is of special interest is that these two systems can never interact; they are in a unidirectional relationship (i.e., acquisition -> learning -> output; *non-interface* model) in that knowledge gained by means of one system can never be transferred or incorporated into another for the purpose of spontaneous use. Instead, each system functions independently and has a different task to perform: the acquired system is used to produce language, and the learned knowledge monitors the resulting output.

Since Krashen saw acquisition as primary in language learning, the learned system had but a peripheral role to play. Its primary function was to edit the acquired knowledge during language production. The editor (i.e., the “Monitor”), however, could not be used at all times. Its usability depended on whether or not *all* of the following three conditions were met. Hence, to activate the Monitor, (1) learners needed to have enough time to access the learned system, (2) they had to also focus on form (not just the meaning) of what they were saying, and (3) their learned system needed to be rich enough to allow for the retrieval of case-appropriate rules. The best time to utilize the Monitor, he argued, is in writing or test-like tasks (e.g., fill-in-the-blank exercises), where learned knowledge can be employed to the fullest. Thus, the Monitor is not always at the learners’ disposal and can only be used in situations when it does not interfere with communication.

The natural order hypothesis states that L2 learners acquire grammatical morphemes (e.g., *-ing*; *-s*; *-ed*) in a predictable order, regardless of both their L1 and whether or not they received instruction. The “natural order” originates in the acquired system and receives no interference from the learned system. The “order” is regular across L2 learners because, it was argued, all language acquisition is guided by the innate human language learning ability.

Given that there is a natural order of acquisition, how do learners move from one point to another? According to Krashen, L2s are acquired by “understanding messages, or by receiving ‘comprehensible input’” (Krashen, 1985, p. 2), which he defined as language that is slightly above the learner’s current grammatical knowledge. This type of input was represented as “ $i+1$ ”, where “ i ” referred to the learner’s current interlanguage level and “ $i+1$ ” identified a point just above the learner’s current level. Krashen considered comprehensible input as the most valuable for L2 acquisition since exposure to input that is comprehensible and is comprehended allows for the spontaneous acquisition of the L2 to take place. As such, instruction that focused on meaning in lieu of form was promoted, and learners were encouraged to

produce language only when they felt ready to do so since premature (and forced) production was believed to inhibit the acquisition process by taking learners' attention away from the primary task of communication. In short, for SLA to occur one simply needs (1) access to his/her innate language ability and (2) exposure to rich comprehensible input. Furthermore, if comprehensible input is available, SLA is inevitable (VanPatten & Williams, 2007b).

Finally, in his affective filter hypothesis Krashen states that in order for L2 learners to acquire language, they need to feel comfortable and be receptive to the input they are exposed to. Factors such as motivation, attitude, self-confidence and anxiety can all affect the success of language learning. To depict this "danger", Krashen proposed the *affective filter* construct. Learners whose filter is "down" are more likely to feel comfortable and motivated to learn an L2, allowing for comprehensible input to flow in freely and for acquisition to occur. If, however, the filter is "up", learners are likely to block the input and, thus, prevent acquisition from taking place. Stressful environments where learners are asked to pay attention to form and/ or are forced to produce language before they are ready to do so characterize *high* affective filter situations and as such, need to be avoided. According to Krashen, for successful language acquisition to occur, two conditions are necessary: (1) rich comprehensible input (at the right level) and (2) a low/weak affective filter. In sum, the innate language learning ability coupled with two of the five hypotheses (the input hypothesis and the affective filter hypothesis) can explain L2 acquisition, as claimed in Krashen's Monitor Theory.

While the behaviourist theory profusely advocated corrective feedback, Krashen's *Monitor Model* shied away from it all together. Krashen argued against treatment of errors that did not impede understanding of the intended message, saying that although corrective feedback may be helpful, comprehensible input alone is sufficient for SLA. According to his model, knowledge that entails deliberate attention to form as well as formal instruction can be used only to monitor (i.e., make minor form-related changes) the output

generated by the acquired system. Furthermore, since the monitor is not always available during communicative tasks, feedback on form may be of little use because even if it is provided, nothing can guarantee that learners will notice, understand, and adopt it. As such, Krashen maintained that learners should be engaged in tasks that are rich in comprehensible input and that provide opportunities for meaningful interaction instead of those that focus on instruction of grammatical categories and include feedback on errors. Krashen saw little use for corrective feedback in L2 acquisition, claiming that it does nothing more than raise the “affective filter” and unnecessarily trigger anxiety in students, thus impeding the input from being processed. Finally, Truscott (1996) went further to claim that grammar teaching and CF are to be avoided as they are likely to result in the breakdown of the communicative flow.

Krashen’s theory of SLA has been challenged by many researchers on the grounds that comprehensive input alone is not enough for successful language learning (Long, 1991, 1996; Swain, 1985, 1993, 1995; Schmidt, 1990, 2001; Schmidt & Frota, 1986; White, 1987) and that attention to form is necessary “if native-like proficiency is the goal” (Long, 1996, p. 423). Several studies, conducted in both natural and classroom contexts (e.g., Harley & Swain, 1984; Lightbown & Spada, 1994; Swain, 1985; Sato, 1990; Schmidt, 1983; Schmidt & Frota, 1986), have demonstrated that despite abundant exposure to comprehensible input and ample opportunities for learners to use L2 in meaningful ways, their grammatical development was minimal. For example, in his well-known case study of Wes, a young Japanese artist, Schmidt (1983) reported a remarkable transformation in the communicative ability of someone who, having arrived in the United States with “minimal” (p. 140) L2 skills, was able, in the course of a three-year intensive exposure to the L2 input, to carry on conversations as well as to conduct all of his dealings entirely in English. Despite his success, Wes’ speech fell short in terms of accuracy, which Schmidt attributed to the lack of formal instruction and Wes’ preference for “message content over message form” (p. 169). The lack of

instruction in the L2 norms has also been blamed for the low grammatical accuracy among learners in the immersion (Harley & Swain, 1984; Swain, 1985) and highly communicative intensive ESL contexts (Lightbown & Spada, 1990; 1994), where the primary focus is placed on the communication of meaning and interaction. This research has shown that students enrolled in purely communicative classes attained advanced abilities in reading and listening skills, and even fluency, but failed to achieve native-like accuracy in writing and speaking. Hence, researchers agree that while input is necessary in SLA, it is not enough on its own, and that other factors are needed to explain the processes involved. Several theories have been put forth to explain additional sources of L2 learning. Of these, the interactional and psychocognitive theories will be detailed next.

2.2.1.3 Interactionism

Since in today's communicative classrooms much of the L2 input comes to learners by way of oral interaction with one or more interlocutors, modifications one makes to his/her speech are important in rendering communication a success. These modifications are initiated by either of the speakers, who, having perceived a comprehension problem, adjusts his/her speech to make the intended meaning more comprehensible for the interlocutor. This process of meaning adjustment, termed "negotiation for meaning", has become the primary tenet of the Interaction Hypothesis proposed by Michael Long (1983; 1991; 1996). The original formulation of the Hypothesis (1983) argued that it is modified interaction (e.g., linguistic simplification, slower speech rate, gestures, and contextual clues) that renders input comprehensible, which in turn promotes L2 acquisition. While studies on the topic agree on the positive effects interaction has on comprehension in general (e.g., Doughty & Pica, 1986) and on language development in particular (e.g., Mackey & Philp, 1998), Pica (1994) has pointed to an additional way interaction may encourage language learning. She observed that whenever an interlocutor could not

understand the intended meaning, he/she would signal the problem to the other by using one (or more) of the following negotiation strategies: clarification requests, confirmation checks, comprehension checks, and recasts. While clarification requests (e.g., *what? uh? pardon me?*) elicit explanation of the interlocutor's preceding utterances, comprehension checks (e.g., *do you want me to repeat? did you understand?*) verify that the intended message has been understood. Confirmation requests (e.g., *a base? you mean X?*), in turn, are used to elicit confirmation that the interlocutor has understood the message correctly. Finally, recasts provide a correct reformulation of an erroneous utterance while maintaining the original meaning intact. These interactional moves, Pica argued, were instrumental in alerting the learner that a breakdown in communication has occurred and that a reformulation or clarification is needed. What's more, the learner's recognition of the problem could invoke noticing, which, in turn, leads to L2 learning (Schmidt, 1990, 2001; Schmidt & Frota, 1986). Later, this view was also advocated by Gass (1997), who claimed that interaction can draw the learner's attention to linguistic problems and that noticing of mismatches between input and learner output is the first step in interlanguage development.

These observations along with Swain's Comprehensible Output hypothesis (detailed below) led Long to revise his Interaction hypothesis (1996) by according corrective feedback more importance. In his revised Interaction hypothesis, Long asserted that information about the correctness and most importantly, incorrectness of learners' utterances received through interaction leads to greater L2 acquisition. Thus, in its new form, the Hypothesis claims that modified input coupled with corrective feedback obtained through interaction bring about L2 learning.

Swain (1985) took the idea of modification to interaction further by positing that output is inevitable in the L2 development process. Prior to her Comprehensible Output hypothesis, output was seen as a way to practice already-existing knowledge or to elicit additional input (Krashen, 1985), not a

way to create knowledge. Swain argued that learners need to be pushed to produce L2 in a precise, coherent and appropriate fashion. This is important because “output may stimulate learners to move from the semantic, open-ended, nondeterministic, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production. Output, thus, would seem to have a potentially significant role in the development of syntax and morphology” (Swain, 1995, p. 128). Furthermore, Swain (1995) claims that output serves four functions in the learning process. First, producing output allows learners to test their interlanguage hypotheses about the structures and meanings of the L2. This testing leads either to reinforcement or rejection of a hypothesis, which ultimately results in language learning. Second, output promotes noticing of gaps (and holes) between what a learner wants to say and what he/ she actually says. This noticing, in turn, pushes the learner to direct attention toward the problematic utterances and to revise them. Another function of output is to promote automaticity, which refers to control over one’s linguistic knowledge. Automatization, according to McLaughlin (1987), involves “consistent mapping of the same input to the same pattern of activation over many trials” (p. 134). Swain extended this notion to output, claiming that consistent and successful mapping of grammar to output brings about automatic processing, an argument that was reiterated by DeBot (1996). In other words, continued practice of language ensures more fluent and automatic L2 production. Finally, output carries a metalinguistic function during negotiation of both meaning and form:

When it is argued that a function of output is to test hypotheses, it is assumed that the output itself is the hypothesis. That is, the output represents the learner’s best guess as to how something should be said or written. We rarely ask learners what their hypotheses are, but rather infer them from the output itself. However, under certain conditions, learners will not only reveal their hypotheses, but reflect on them using language to do so. It is this ‘level’ of output that represents its metalinguistic function of using language to reflect on language, allowing learners to control and internalize it (Swain, 1995, p. 132).

To sum up, Swain asserts that output is instrumental in providing learners with opportunities to produce language and to receive feedback on that production. Feedback, in turn, may focus the learners' attention on certain aspects of their speech, leading them to notice either the mismatch between their output and the target norm (i.e., *noticing the gap*, Schmidt & Frota, 1986) or the insufficiency of their output (i.e., *noticing the hole*, Swain, 1998; Doughty & Williams, 1998). Noticing is said to lead to re-evaluation of the original hypothesis, ensuring acquisition.

While most *interactionist* researchers agree that CF is beneficial for learning, they argue as to the techniques that will bring about acquisition. Long (1996; 2006), for example, has advocated the use of recasts and the “three C’s”, namely Clarification requests, Confirmation checks, and Comprehension checks (Gass & Mackey, 2007), because of their implicit and reactive nature, they lend themselves well to communicative classrooms where the focus is primarily on meaning and communication. He claims that CF needs to be reactive (not pre-emptive) and occur only when teachers or other learners perceive difficulty in understanding the message or its form. That is, “focus on form often consists of an occasional shift of attention in linguistic code features – by the teacher and/or one or more students – triggered by perceived problems with comprehension or production” (Long & Robinson, 1998, p. 23).

Recently, interaction research has, in some cases, replaced the three C’s with recasts as the preferred feedback technique (Gass & Mackey, 2007). Recasts provide learners with target-like reformulations of the learner’s original utterance. They do not need to involve repetition of the entire utterance and may include additional elaborations not present in the original statement, but they are contingent on the learner’s utterance, which they temporarily juxtapose. This juxtaposition frees the working memory from processing for meaning, therefore increasing the chances of processing for form. While this juxtaposition is instrumental in simultaneously providing the learner with both

positive (correct form) and negative evidence (non-targetlike form) in an environment where positive evidence is enhanced (i.e., communicative classroom), it may also confuse the learner as to its intent. That is, if a recast occurs after an ungrammatical utterance, it may be perceived as responding to the content of the statement and not its form, or even, as another way of saying the same thing (Lyster, 1998a; 1998b; Lyster & Ranta, 1997).

Although Swain (1985) has not openly advocated one corrective technique over the other, the notion that learners need to be pushed to produce more targetlike output suggests prompts are possibly the best way to facilitate L2 learning in that context. Since prompts push learners to correct the error on their own, they are instrumental in focusing the learners' attention on certain aspects of their speech, leading them to notice the gaps and/ or holes of their output. These psycho-cognitive theories, in turn, have advanced another explanation as to the processes involved in SLA, which is detailed next.

2.2.1.4 Psycho-cognitive theories

Cognitive SLA theories aim to explain how L2 is processed and learned by the human brain. Unlike the behaviorist stimulus-response model for human learning, cognitive psychologists view the brain as a processor that operates on mental representations, which mediate input and output. Output is measured in terms of *performance* (not behavior), which is inferred from observations of information processing. Current SLA research on cognition has adopted the following three key assumptions made by information processing psychologists: (1) learning is made of representation and access or process (Skehan, 1998), (2) mental processing is divided into automatic/fluent (unconscious) and voluntary/ controlled (conscious) modes, and (3) attention and memory – a central preoccupation in SLA cognition – are limited (Ortega, 2009). To begin, *representation* refers to knowledge of the L2 in terms of its grammar, lexicon and schemata. *Access* involves processing (i.e., access and retrieval) of that knowledge when it is needed for comprehension (input) or

production (output). This processing is supported by both automatic and controlled mechanisms, which by way of interaction create all human perception and action. When a task is automatic, its processing requires little effort and as such, uses few cognitive resources, allowing for simultaneous execution of several tasks (i.e., parallel processing). Controlled processing, on the other hand, involves more effort and cognitive resources, which limits the number of elements one can attend to at the same time (i.e., serial processing). The latter is invoked when mental and conscious effort is required to perform any task, from typing to learning a new language. This *limited capacity model* of information processing (Ortega, 2009) predicts that tasks performed under controlled processing will yield a performance that is variable and vulnerable.

To become an effective user of the L2, one would need to achieve a certain level of automaticity, where he/she will be able to use the language with relative ease and speed. Defined as “automatic performance that draws on implicit-procedural knowledge and is reflected in fluent comprehension and production and in lower neural activation patterns” (Ortega, 2009, p. 85; Segalowitz, 2003), automaticity is “the result of a slow process we call *automatization*” (DeKeyser, 2001, p. 125), without which “no amount of knowledge will ever translate into the levels of skill required for real life use” (p. 126). According to Skill Acquisition Theory, adapted from John Anderson’s Adaptive Control of Thought (ACT) theory (Anderson, 1983), learning is the gradual transformation of knowledge from controlled to automatic achieved by way of repeated practice. That is, over time, practice – defined as “specific activities in the L2, engaged in systematically, deliberately, with the goal of developing knowledge of and skill in the L2” (DeKeyser, 2007a, p. 1) - replaces controlled processes with the automatic ones via conversion of declarative/ explicit knowledge (knowledge THAT – e.g., Ottawa is the capital of Canada) into procedural knowledge (knowledge HOW to do something – e.g., using the right form of the verb). While the initial change (from declarative to procedural knowledge) happens rather quickly, the automatization of

procedural knowledge that follows occurs at a much slower rate. Automatization can be defined in several ways: (1) the whole process of knowledge change (from declarative to procedural), (2) “the slow process of reducing error rate, reaction time, and interference with/ from other tasks that takes place after proceduralization”, or (3) “quantitative change in the subcomponents of procedural knowledge to the exclusion of any qualitative change or restructuring” (DeKeyser, 2007a, p. 3). Regardless of the definition one adopts, researchers agree that knowledge developed at the later stage is more specific than at the beginning, oftentimes becoming so specialized that it does not transfer well, even to similar tasks (DeKeyser, 2007b). So, what is needed for effecting language learning is the development of the two kinds of knowledge: procedural knowledge for use in predictable contexts, and declarative knowledge for application of rules in new situations. What is of more importance, however, is that the right conditions need to be present for automatization of knowledge to succeed. That is, abstract rules need to be repeatedly illustrated with concrete examples (to create mental associations between the two) to move learners from the “that” to “how” stage of skill acquisition (Anderson, Fincham, & Douglass, 1997). This is precisely what is missing in L2 teaching, argues DeKeyser (2005).

A central concept in the study of skill acquisition is characterized by the “power law of practice/ learning” (DeKeyser, 2007a; 2007b), which states that practice causes reaction time and error rate to decline over time. This means that at some point practice will stop yielding results (Anderson, 2000). Furthermore, automatization is highly skill-specific and as such, it should involve practice that focuses on the production/comprehension of relevant abilities (e.g., practice of L2 production should help automatize production, not comprehension). Lastly, it is important to note that proceduralized knowledge is not the same as implicit knowledge. While absence of awareness is a necessary requirement for implicit knowledge, this is not so for automaticity (DeKeyser, 2007a). That is to say that knowledge can be implicit but not automatic (e.g.,

error rate is high but speed is low due to incomplete implicit learning, which causes the learner to feel unsure about what he/she knows), and vice versa, it can be automatic yet not implicit (speed is high and error rate is low, but the learner is still conscious of the rule).

The third key assumption in the study of cognition in SLA is that although memory and attention play an important role in language learning, their capacity is limited. There are two types of memory available in the human mind: long-term and working (short-term). Since the former is about representation, its capacity is virtually unlimited. It comprises two types of memory: explicit-declarative, which aids in the recollection of facts and events, and implicit-procedural, which supports skills and habit learning¹². Working memory, in turn, is about access and involves on-the-spot “working out” (N. Ellis, 2005) of problems. Thus, it not only stores information, but also integrates new information with the knowledge that has already been encoded in long-term memory. N. Ellis (2005) defines working memory as “the home of explicit induction, hypothesis formation, analogical reasoning, prioritization, control, and decision-making. It is where we develop, apply, and hone our linguistic insights into an L2. Working memory is the system that concentrates across time, controlling attention in the face of distraction” (p. 337). Its storage capacity, however, is very limited, managing to hold on to information for a few seconds before forgetting it all together (unless it is practiced enough to enter long-term memory – *phonological loop*, Baddeley, 2007).

This limitation is offset by *attention*, which increases the amount of time information remains activated in working memory before it is sent for further processing or for storage in long-term memory. Attention, however, is also limited in capacity, which forces it to handle only one attention-demanding processing task at a time (Ortega, 2009). But, what determines the order in which information is processed? In his Input Processing hypothesis, Bill VanPatten (2002; 2004) suggests two principles that guide learners in the processing of input during real time comprehension. First, learners process

input for meaning before they process it for form. In grammatical terms, this means that (1) they process content words before anything else (e.g., in “The cat is sleeping”, learners will process “cat” and “sleep” before “the” and “is”, VanPatten, 2007a, p. 117), (2) they tend to rely on lexical items as opposed to grammatical form to get meaning when both encode the same semantic information (e.g. “yesterday” will be processed before the verb-final “-ed”; “he” before the third person singular marker “-s”), and (3) they interpret the first noun in a sentence to be the subject (e.g., “Mary hates John”, Mary = doer = subject, VanPatten, 2007a, p. 121). Second, for learners to process form that is not meaningful, they must be able to process informational or communicative content at no or little cost to attention. This means that the learners’ attention needs to be drawn to form in ways that ensure awareness.

The importance of awareness in learning the L2 was first highlighted by Schmidt, who having studied Wes (Schmidt, 1983) and his own learning of Portuguese (Schmidt & Frota, 1986), proposed the Noticing Hypothesis (Schmidt, 1990). According to this hypothesis, learning any aspect of L2 requires conscious noticing (not just *detection*¹³) of the relevant linguistic data in the input. That is to say, “in order to acquire phonology, one must attend to phonology; in order to acquire pragmatics, one must attend to both linguistic forms and the relevant contextual features; and so forth” (Schmidt, 1995, p. 17). Hence, it is focused attention on specific aspects in the input, Schmidt claimed, that brings about L2 knowledge: “what learners notice in input is what becomes intake for learning” (Schmidt, 1995, p. 20). In other words, learning of all aspects of L2 cannot occur without awareness. What is more, subliminal learning (i.e., learning without awareness) is impossible (Schmidt, 1990). Schmidt (1990; 1994; 1995; 2001) attributed two levels to awareness: higher and lower. While the higher level of awareness is associated with understanding and is seen as facilitative but not necessary for language learning (i.e., the weak form of the Hypothesis), the lower level is equated to noticing and is judged as crucial to L2 acquisition (i.e., the strong interface).

Various positions have been proposed around the Noticing Hypothesis (Robinson, 1995; Ellis N., 2002; Schmidt, 2001; Tomlin & Villa, 1994; Gass, 1997). Nick Ellis (2002), for example, has sided with Schmidt's position, saying that the Noticing Hypothesis can be deemed "correct" provided that it is complemented by the following two conditions, stipulated in his Implicit Tallying Hypothesis (2002): (1) noticing is necessary only for new elements, whose learning cannot be achieved without conscious attention, however, it is not necessary for all aspects of language; (2) noticing may be necessary only for first-time, and not for consecutive, encounters with "difficult" elements because "once a stimulus representation is firmly in existence, that stimulus [...] need never be noticed again; yet as long as it is attended to for use in the processing of future input for meaning, its strength will be incremented and its associations tallied and implicitly catalogued" (Ellis, 2002, p. 174). Robinson (1995), in turn, concurred with Schmidt in that noticing is a necessary condition for language learning, but specified that this is only so as long as noticing is seen as involving awareness (focal attention) plus rehearsal of input in the short-term memory. The focus here is on the rehearsal function, which is claimed to control the sending of information stored in the short-term memory to the long-term memory.

Others, however, have disagreed with Schmidt, suggesting that only *detection* is necessary in learning L2 (Tomlin & Villa, 1994) and that while *noticing* facilitates L2 development, it is not required (Tomlin & Villa, 1994; Gass, 1997). In their functional model of input processing, Tomlin and Villa (1994), for example, divided attention into three components: (1) alertness (a general readiness to deal with the incoming stimuli), (2) orientation (the direction of attention resources to a certain type of stimuli), and (3) detection (the cognitive registration of the stimuli) (p. 190). Of the three, Tomlin and Villa (1994) attribute *orientation* and *detection* the central roles in the process of second language acquisition. For them, "the key idea of orientation is that the specific aligning of attention ('orienting') on a stimulus has facilitative or

inhibitory consequences for further processing depending on whether or not information occurs as expected or not as expected” (p. 191). Despite the importance of orientation as a function of attention, Tomlin and Villa argue that it is detection *alone* that is necessary for acquisition to occur because once a particular exemplar is registered in memory, the learner can then use it to make and test hypotheses about the L2 standard. As such, the model maintains that while alertness and orientation may increase the chances of detection, they (separately or together) are not necessary for detection to take place (p. 197). In other words, according to Tomlin and Villa, there is no link between learning and awareness; instead, it is the detection of linguistic input (without awareness) that is necessary to ensure L2 learning. Similarly, Gass (1997) claimed that although noticing is helpful in L2 learning, it cannot be considered essential.

In light of these views, Schmidt has adjusted his original claim from seeing noticing as the “necessary and sufficient condition for converting input to intake” (Schmidt, 1990, p. 129) to assigning it a facilitative role in L2 learning. Thus, in its present form, the Noticing Hypothesis states that noticing is helpful in L2 learning, suggesting that “more noticing leads to more learning” (Schmidt, 1994, p. 18). Noticing can come from within the learner (e.g., when composing a sentence to express his/her thoughts) or be encouraged by such external factors as a lesson or a reaction from the teacher/interlocutor. These (internal and external) factors, Schmidt posited, make learners become aware of (1) the forms in the target language (Schmidt, 1995), (2) the gaps between their utterances and the L2 (i.e., “noticing the gap”, Schmidt & Frota, 1987), and (3) the holes (what is missing) in their interlanguage (Swain & Lapkin, 1995). In this weaker form, the Hypothesis has attracted much support among researchers, who, for the most part, have been able to demonstrate that noticing (detection plus awareness) is facilitative of L2 learning.

To sum up, the *psycho-cognitive theories* emphasize the role of attention, according *attention to input* a special status since this is where

information about the L2 is stored and hypotheses are formed and tested. Attention is said to control access to consciousness, to be limited, selective, and subject to voluntary control, and most important to this discussion, attention is essential for learning. The claim that no learning is possible without attention (e.g., Schmidt, 1990; 2001) is related to the limited capacity of working memory to retain new information for more than a few seconds. It is argued that attention increases the amount of time information remains active and is processed in working memory before it is stored in long-term memory. Similarly, in SLA, attention is seen as necessary for input to become available for further mental processing (Schmidt, 1995; VanPatten, 1994). It is this processing, then, that enhances practice of and allows learners to notice the mismatch between what they can and need to produce and what they produce in comparison to what the L2 speakers produce (Gass, 1997; Schmidt & Frota, 1986; Swain, 1993, 1995, 1998). Furthermore, attention is claimed to be both necessary and sufficient for learning L2 structure (VanPatten, 1994). As such, it is logical to assume that CF is not only relevant, but also important in this context. Specifically, it brings about repeated practice (skill acquisition theory), raises awareness of form (Schmidt, 1990), and allows for form to be processed when the meaning is understood (VanPatten, 1994).

In terms of corrective techniques, the theories herein do not explicitly subscribe to one type over the other. They simply reiterate the importance of feedback as an awareness-raising tool. However, it may be possible to draw a conclusion about a technique that VanPatten's Hypothesis might advocate, namely recasts. Since learners (especially, the low level ones) cannot attend to meaning and form simultaneously, one of the potential benefits of recasts is that they can help overcome this difficulty by keeping the meaning constant. Once the meaning is understood (even if partially), the resources needed to process meaning will be reduced, allocating more attention to form, and consequently, facilitating form-function mapping (VanPatten, 1990). Furthermore, in relation to cognitive psychology, prompts may also be seen as a "good" CF technique

for they can aid at proceduralizing declarative knowledge and at automatizing retrieval of correct forms (DeBot, 1996). In other words, recasts may be necessary for first-time encounters because they can serve as models of what is possible in the target language (i.e., provide positive evidence, Leeman, 2003). Once these models are provided, prompts may be employed to push learners to retrieve these correct forms from declarative knowledge in order to proceduralize them and to make their retrieval automatic.

To summarize, the four theories described herein represent different views on the process of L2 learning and the role of corrective feedback in it. The behaviourist viewpoint suggests that language is learned through imitation of the supplied models and that errors are to be avoided to ensure successful acquisition. If errors happen to occur, the best way to treat them is through immediate and overt correction that includes identification and remediation of the problem as well as the provision of additional targetlike models. Hence, recasts and explicit correction are the preferred techniques to remedy ill-formed utterances – recasts provide the models of the target form, and explicit correction signals the locus of the error, explains the problem in grammatical terms, and assures ample repetition of the correction. Innatists, on the other hand, believe in the sufficiency of comprehensible input in the L2 learning and see no need for grammar teaching or corrective feedback, which instead of promoting acquisition impede it by raising the affective filter, decreasing motivation, and interrupting the flow of communication. Arguing against the sufficiency of comprehensible input in SLA, interactionists agree on the importance of having the learners' attention drawn to the formal properties of the target language by means of feedback. Their theoretical stances, however, imply different corrective techniques. While some (Long, 1996; 2006) see recasts as effective in that they are implicit and are provided in reaction to a comprehension or production “roadblock”, others (Swain, 1985, 1995) seem to favour pushing learners to produce output, which may make prompts favoured over recasts. Finally, although the psycho-cognitive theories did not make

explicit claims as to the CF techniques that bring about more language learning, they appear to see both recasts and prompts as important, albeit at different stages in the language learning process, for each is likely to raise awareness of form and result in its repeated practice. Corrective feedback is attributed an important role in these types of theories for it draws the learners' attention to form during communication and by doing so, allows them to notice the gap between what they said and should have said.

While the major language theories advocated today generally agree on the facilitative effect of CF on language learning, to date, there is no consensus on whether certain feedback techniques are more effective than others in leading to learning gains. An ongoing debate that pertains to the effectiveness of recasts versus prompts in terms of the type of evidence each provides, how implicit or explicit each is, as well as which is more noticeable, to name a few, is in full swing. Some researchers classify recasts as implicit feedback and prompts as explicit. This classification, however, is not so clear-cut because research has shown that both types of feedback can vary in the delivery (Ellis & Sheen, 2006) and the characteristics employed (e.g., length, number of changes, Ellis *et al.*, 2006; Egi, 2007a), rendering them more or less explicit. Alternatively, R. Ellis (2006) proposed looking at the feedback types in terms of input-providing (recasts and explicit correction) and output-pushing (prompts) CF, a move that was echoed in Ranta and Lyster's (2007) reclassification of their original CF taxonomy (Lyster & Ranta, 1997). It is argued that while input-providing feedback involves cognitive comparison in working memory of the form used versus the form supplied, output-pushing CF relies on long-term memory to retrieve the correct form (Lyster, 2007; Lyster & Mori, 2005; Ranta & Lyster, 2007). Recasts and prompts also provide different types of evidence. While some researchers see recasts as the CF type that provides positive evidence (Leeman, 2003), others argue that the type of evidence recasts provide (i.e., positive, negative, or both) depends on how the learner perceives it, which largely influences the effectiveness of the recast

(Egi, 2007a; Ellis & Sheen, 2006). Prompts¹⁴, on the other hand, provide negative evidence because they inform the learner that there is a problem in the produced utterance and push him/her to correct it, which, in turn, results in interlanguage restructuring (Lyster, 2002). De Bot (1996) claimed that prompts are more effective than recasts because they push learners to “make the right connections on [their] own” (p. 549). Yet, before any learning can take place, the supplied CF needs to be recognized and acted upon. In other words, to benefit from the correction the learner needs to consciously notice the formal aspects of the L2 brought about by the teacher’s feedback and to juxtapose the difference between his/her interlanguage form and the L2 norm (Schmidt, 1990). The research into the noticeability of CF will be detailed next.

2.3 The noticeability of CF

Noticing has been operationalized differently in studies of corrective feedback. While some researchers examined the learners’ ability to recall feedback online and retrospectively as a sign of noticing (e.g., Havranek, 1999; Mackey *et al.*, 2000; Mackey *et al.*, 2002; Mackey, 2006; Trofimovich *et al.*, 2007; Philp, 2003; Ammar & Sato, 2010a), others attributed the learners’ immediate reactions to CF (i.e., uptake) as evidence of noticing (e.g., Lyster & Ranta, 1997; Panova & Lyster, 2002; Braidı, 2002; Doughty 1994; Mackey & Philp, 1998; Ohta, 2000; Ellis *et al.*, 2001; Loewen & Philp, 2006; McDonough & Mackey, 2006). Both types of such studies, beginning with those that used recall protocols to determine the noticeability of feedback, are examined next.

2.3.1 Recall protocols as a measure of noticing

Two types of retrospective protocols have been used to measure noticing. The first type includes think-aloud or talk-aloud procedures that are carried out *during* a task. The second involves retrospective protocols, which engage thinking about a *previously-performed* task. This type of protocol

usually entails a prompted interview (i.e., stimulated recall), which may utilize video, audio or written prompts to engage the learner in retrospection. These two types of protocols may be grouped further into online (i.e., think-aloud and talk-aloud) and retrospective (i.e., stimulated recall) reports in terms of timing (Mackey & Gass, 2005). That is, whereas online reports require that the learner tells the researcher what he/she is thinking *while or immediately after* performing a task, retrospective measures call on the learner to report those thoughts *after* completing a given activity.

Mackey *et al.* (2000) were perhaps the first to investigate the extent to which adult ESL learners ($n = 10$) and English L1 university learners of Italian ($n = 7$) were able to notice CF and to accurately identify its linguistic target. The non-native speakers (NNS) were paired up either with a native speaker (NS) (in the case of ESL) or a proficient L2 speaker (as was the case with Italian) to partake in two-way interaction activities (spot-the-differences and picture description tasks), during which native or proficient speakers of the L2 were asked to provide CF whenever and in whatever form it seemed appropriate to them. Feedback was provided in response to errors on morphosyntax, phonology and lexis. The interaction task was immediately followed by stimulated recall sessions, where the learners were asked to recall their thoughts at the time of the original interaction. To do this, they were asked to watch video replays of their interactions with the NSs. As they watched, the video was periodically paused (during instances of feedback) and the learners were asked to report what they were thinking at the time. Noticing was operationalized as the learners' verbalization of what they perceived the focus of feedback to be. The results revealed that accurate perception of CF was dependent on the type of error. That is, the ESL learners accurately recognized the corrective intent of feedback on their lexical (83.3%) and phonological (60%) errors, but not on the morphosyntactic problems (13%), a pattern corroborated by the Italian learners. A closer look at the feedback types in relation to error type showed that while recasts were used to treat most of the morphosyntactic errors (75%), negotiation

was used to target the phonological errors (74%), a move characterized as “suboptimal” by the authors “at least in terms of learners’ perceptions about the feedback” (Mackey *et al.*, 2000, p. 493). The studies that followed investigated the noticeability of CF in terms of learners’ cognitive abilities, proficiency level, and types of recasts and compared the noticeability of recasts to prompts. The next section outlines the studies that considered the cognitive factors in the noticeability of feedback.

Following Robinson’s (1995) suggestion that learners’ ability to notice feedback may depend on the aptitude of their working memory (WM), Mackey, Philp, Egi, Fujii and Tasumi (2002) set out to investigate whether WM was in fact the mediating factor in Japanese L1 learners’ ($n = 30$) ability to notice recasts in dyadic task-based interactions when learning English. In this pre-test/post-test design, all the participants received feedback from native speakers (NS) of English in response to their ill-formed questions and underwent psychometric tests of WM capacity. However, only a fraction¹⁵ ($n = 11$) took part in the stimulated recall interviews, reflecting on their thoughts during preselected feedback episodes. Noticing was identified as “the learner’s articulation of response to the input, without distinguishing the degree of understanding involved, or the focus of noticing” (p. 188). The results suggested that learners with larger WM capacity were able to recognize recasts more readily than those with limited capacity.

This finding, however, was not corroborated by Trofimovich, Ammar and Gatbonton (2007), who looked at whether individual differences such as proficiency level, attention span, phonological memory, working memory and analytical ability along with error type (morphosyntax, phonology and the mixture of the two) affect ESL learners’ ability to notice recasts. In addition to tests of the said individual differences¹⁶, thirty-two adult Francophone learners of ESL participated in an online description task, where they had to describe drawings depicting members of two families (with one male and one female child) engaged in everyday tasks (e.g., playing, eating, etc.). The pictures were

designed to elicit one of the targeted features: (1) morphosyntactic (English possessive determiners = PDs), (2) lexical (intransitive verbs), or (3) both (transitive verbs followed by a possessive determiner-noun combination). The picture task proceeded as follows. First, on a computer screen, the learners were shown a picture of a person performing a task (e.g., a girl scratching her back). Then, after a short delay, a digitally-recorded voice of a native speaker of English prompted them to describe the event depicted in the picture (e.g., *What is she doing?*). At this point, the generated response could either be accurate (e.g., *The girl/she is scratching her back*) or inaccurate (e.g., *She is scratching his back*). Regardless whether the description was accurate or not, each response was followed by a digitally-recorded recast (e.g., *Yeah, she is scratching her back*). After that, the learners were asked to indicate, by saying “yes” or “no”, if they noticed any difference between their original utterance and the recorded description (*Did you notice any difference? Please say yes or no*). Finally, on the immediate post-test, the learners saw the same drawing again and were asked to describe it one more time. The delayed post-test was conducted 2-12 minutes later to examine the learners’ ability to incorporate the earlier-supplied recast into their new description. Noticing of the recast was based on the immediate response to the “noticing” question and operationalized as proportion noticing (i.e., correctly detected recasts divided by the total number of incorrect productions), and use was operationalized as accurate productions at the immediate and delayed post-tests. The learners’ noticing scores for each of the linguistic targets (morphosyntactic, lexical, and mixed) were submitted to an analysis of variance (ANOVA). The results indicated that when the learners received feedback on their erroneous utterances, they noticed more recasts targeting lexical (intransitive verbs) than morphosyntactic errors (PDs), but none of the cognitive differences were found to predict noticing. The reason for this, the authors speculated, might have been due to the high frequency of recasts, which were supplied regardless of whether or not a learner’s utterance contained an error. This might have increased the saliency of

recasts in the input, making them highly predictable on the one hand, and limiting the learner's need to draw on his/her individual differences to notice them, on the other.

In addition to the error type and working memory capacity, the noticeability of feedback was investigated in relation to the learners' proficiency level and the length of a recast. In her investigation of the extent to which L2 learners (NNS) noticed recasts in reaction to their ill-formed questions during oral interaction with native speakers of English (NS), Philp (2003) paired an NNS ($n = 33$) with an NS to perform a warm-up, a story-completion and a picture-drawing tasks. The warm-up task was used to train the participants in the methodology to be used. That is, the adult ESL learners were asked to listen as their NS partner read a string of 12 random numbers. The reading was interrupted at places by the sound of two knocks, at which time the NNS had to recall the last two numbers in the read sequence. No information as to the correctness (or incorrectness) of the recall was provided then. However, during the picture task, where the NNS had to ask the NS questions about the pictures, feedback (i.e., recast) was provided by the NS in response to any non-targetlike structures. Each recast was followed by the sound of two knocks (i.e., online/immediate recall), prompting the NNS to repeat the last thing he/she heard. An example of this follows (Philp, 2003, p. 108):

NNS: *Why he is very unhappy?*

NS: *Why is he very unhappy?* [2 knocks]

NNS: *Yeah, why is very unhappy?*

Noticing was measured through an online protocol. Although Philp (2003) acknowledged that immediate recall is not a perfect measure of noticing since what is noticed is not always reported, she argued that "if recasts are recalled, it is evident that noticing at some level has taken place: input has been detected and further processed in working memory to the extent that it is available for recall" (p. 109). As such, the data were transcribed and analyzed as to the accuracy with which the recall was made: (1) correct, (2) modified, or

(3) no recall. When the recast was repeated, the recall was judged “correct”. “Modified” recall applied to those instances when the recast was repeated but inaccurately (as in the example above). And finally, the “no recall” category described those utterances that either were not changed or failed to produce any response to the cue. The results showed that the advanced proficiency (high and intermediate, in this study) learners accurately recalled over 70% of recasts compared to 60% recalled by their low level counterparts. Furthermore, the length of a recast affected the accuracy of the recall in that shorter recasts were noticed more often (regardless of the proficiency) than the longer ones. Finally, recasts that resembled the original utterance the least (i.e., incorporated three or more changes) were not noticed as often as those with fewer changes. This result applied to all the learners, irrespective of level.

In their investigation of the differences in the noticeability of explicit versus implicit recasts, Ammar and Sato (2010a) engaged young francophone learners of English ($n = 53$) in a variety of tasks designed to target three morphosyntactic features: third person possessive determiners, questions, and past tense. Noticing was measured by way of online and stimulated recalls. The online measure was carried out during the first two days of the four-day intervention while the learners were engaged in classroom tasks. During student-teacher interactions, the researcher would flash a red-colored card to have students write down what they were thinking at that specific time. The stimulated measure of noticing, in turn, was done one day after the intervention and required that the students watch episodes of student-teacher interactions that took place on Day 3 of the study and write down their thoughts each time the tape was stopped. The online and stimulated recall stimuli were equally distributed between the two types of recasts. The analyses of noticing yielded three noticing categories: (1) *detection* – clear detection of correction evidenced either by a statement or an explanation of what was incorrect (e.g., “Miss Coir was repeating Frederic’s question and she correct the mistakes that Frederic did”...), (2) *uptake* – repetition of the teacher’s reformulation (e.g., “Does the

woman have a dog?”), and (3) *help* – detection of the teacher’s help without mentioning the nature of that help (e.g., “Mr. Labbé was helping Jonathan during the game”). The results showed that explicit recasts are more noticeable than their implicit counterparts both in the online and stimulated recall protocols. When, however, scores on the pre- and post- tests were correlated with the noticing data, explicit recasts were found to lead to more L2 knowledge gains than implicit reformulations, and noticing achieved via online recall was found to predict 24% of the overall learning. The online protocol was also found to be a better predictor of L2 learning than stimulated recall. Drawing on previously reported findings that working memory, attention capacity and analytical ability (Mackey *et al.*, 2002; Trofimovich *et al.*, 2007) moderate one’s ability to benefit from recasts, Ammar and Sato investigated the effects of four individual differences (attention capacity, perceptual speed, phonological memory, and analytical ability) on the students’ ability to notice and learn from recasts. The only individual difference that significantly affected overall noticing and overall development was the attention switching capacity, which also seemed to influence the development for the implicit but not the explicit recasts.

Hence, to date, much of the research into the noticeability of feedback has primarily focused on noticing as a function of one type of CF, namely recasts, and forewent the need to investigate factors that may influence learners’ ability to perceive other types of feedback as well as the need to compare the noticing rates of recasts to that of other corrective techniques. Though an early attempt at such a comparison was made by Mackey *et al.* (2000) when they contrasted the noticeability of recasts to negotiation for meaning techniques (confirmation checks, clarification requests, segmentation, and rewording), the design of the study did not produce an even distribution of the two techniques across the three error types (i.e., lexicon, morphosyntax and phonology), thus limiting any comparison these feedback moves yielded in terms of noticing. Although it was found that the learners were not able to accurately recognize

recasts as feedback on morphosyntax, nothing was said about the negotiation techniques enabling (or hindering) their ability to do the same. Similarly, the study pointed to the fact that the learners were able to correctly identify feedback on phonological errors, which was provided mostly via the negotiation techniques, but it did not discuss the learners' ability to notice recasts in response to the ill-formed phonological utterances.

Several researchers (e.g., Ellis, 2001, 2006; Loewen & Philp, 2006; Lyster & Saito, 2010) have called into question the rigidity of the distinction studies of interaction make between recasts and the negotiation for meaning techniques (e.g., Mackey, 2006; Mackey & Philp, 1998; Oliver, 2000) when comparing the effectiveness and noticeability of the two. The primary concern is that the negotiation techniques, as a group, include the CF types that provide input (e.g., confirmation checks) and those that require learners to produce output (e.g., clarification requests that prompt learners to self-repair), which blurs the boundaries between them, rendering any "analysis of the effects of different types of processing" (Lyster & Saito, 2010, p. 269) impossible. Clear comparisons between recasts and negotiation are further limited by the fact that confirmation checks, a negotiation technique, are similar in function to recasts, which "are often part of negotiation sequences and function as confirmation checks" (Loewen & Philp, 2006, p. 540). What's more, in their recent meta-analysis of 15 classroom-based studies that investigated the effectiveness of oral corrective feedback on L2 knowledge, Lyster and Saito (2010), questioning the feasibility of distinguishing recasts from negotiation, chose to exclude from their report those investigations that conflated the two techniques (e.g., Mackey, 2006; Muranoi, 2000).

Heeding this limitation, Ammar (2008) compared the noticeability of recasts to prompts among francophone learners of English aged 11-12 year old ($n = 48$). As part of the regular in-class work, the students engaged in information gap activities designed to target three morphosyntactic targets (question formation, third person possessive determiners, and past tense) and

one phonological target (the “th” sound) of interest. During the activities, the teachers were instructed to provide feedback according to their natural corrective method (i.e., recasting or prompting). To measure learners’ noticing, a day after the intervention, the participants as a class watched 20 video excerpts of feedback (and distractor) instances and after each interaction, wrote down what they were thinking about in relation to what the teacher was doing. The responses were then analyzed along the three categories of noticing that were yielded by the data: (1) *detection* (e.g., “I was thinking that Miss X correct person when they did past tense mistake”); (2) *uptake* of the teacher’s correction; and (3) *help* – when the learner identified the fact that the teacher was trying to help (focus on content) but did not allude as to the form of that help (e.g., “Mr. X was trying to help Mary”). The results showed that overall the learners were able to notice the corrective intent of prompts more readily than that of recasts and that compared to recasts, prompts yielded a higher rate of level one (“detection”) noticing. To see if noticing of either prompts or recasts was a function of individual differences, Ammar assessed the learners’ processing speed, phonological memory, attention control and analytical ability. No significant correlations between these four factors and the learners’ noticing of prompts were found. However, while phonological memory, attention control, and analytical ability also came up as insignificant for the noticing of recasts, the results pointed to a statistically significant link between processing speed and the noticing of recasts, suggesting that the speed with which input is processed may affect learners’ ability to notice and consecutively benefit from recasts.

To sum up, the noticeability of recasts as a function of recall protocols seems to depend on the error type, working memory, attention capacity and attention switching capacity, analytical ability, the learner’s proficiency level, as well as the length and type (explicit/ implicit) of a recast (Mackey *et al.*, 2000; Mackey *et al.*, 2002; Trofimovich *et al.*, 2007; Philp, 2003; Ammar & Sato, 2010a). The only study that, to date, has systematically compared recasts

to prompts (Ammar, 2008) revealed the latter technique to be more noticeable than the former, attributing the saliency of prompts as the possible reason for those results. This finding warrants additional investigations that will not only compare the two corrective techniques, but will also make use of the online protocol measure of noticing, which seems to be a better predictor of L2 learning than stimulated recall (Ammar & Sato, 2010a).

2.3.2 Uptake

The noticeability of CF has also been investigated by means of another, albeit indirect, measure of awareness: uptake (e.g., Mackey & Philp, 1998; Loewen & Philp, 2006; McDonough & Mackey, 2006). Although the term “uptake” has been used in a variety of research fields (e.g., kinetics, pharmacology, language learning) to refer to different concepts, Lyster & Ranta (1997) were perhaps the first to operationalize the term in the context of CF 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). Uptake can occur in the form of “repair” or “needs repair”. While the “repair” episodes are usually evidenced by repetition/incorporation/provision of the correct form depending on the CF technique utilized, the “needs repair” instances require additional feedback. The “repair” instances include four sub-categories and are detailed in Table 2 (Lyster & Ranta, 1997, p. 50).

The “needs-repair” category, in turn, is comprised of the following six types of responses (Lyster & Ranta, 1997, pp. 50-51):

1. *Acknowledgement* – a simple “yes” or “no” in response to the teacher’s feedback.
2. *Same error* – uptake that includes a repetition of the student’s initial error.

3. *Different error* – uptake that is in response to the teacher’s feedback but that neither corrects nor repeats the initial error; instead, a different error is made.
4. *Off target* – uptake that is clearly in response to the teacher’s feedback turn but that circumvents the teacher’s linguistic focus altogether, without including any further errors.
5. *Hesitation* – a student’s hesitation in response to the teacher’s feedback.
6. *Partial repair* – uptake that includes a correction of only part of the initial error.

Since this category generally requires additional feedback from the teacher, it allows for multiple-turn feedback, as is illustrated in this example (Lyster & Ranta, 1997, p. 51):

St: *J’ai la difficulté à ... comment expliquer que em... pour lui qui... qui nous envoie une lettre dans se future.* [Error – lexical]

T3: *Je ne comprends pas.* [Feedback – clarification]

Sts: *Moi non plus.*

Stsame: *J’ai de la difficulté à ... à formuler une phrase pour dire em... pouvez-vous renvoyer une lettre de re... une lettre de retour.*
[Needs – different]

T3: *Une lettre de retour?* [Feedback – repetition]

Stsame: *Oui.* [Needs - acknowledgement]

T3: *Bien regarde. Dans la conclusion, qu’est-ce qu’on dit?... Qu’est-ce qu’on disait dans la conclusion?* [Feedback – elicitation]

Stdif: *J’attends avec impatience votre lettre.* [Repair-peer]

Table 2

Types of “repair” uptake, adapted from Lyster & Ranta (1997, p. 50)

| Type of repair | Definition | Example |
|----------------|--|---|
| Repetition | Repetition of the correct form provided by the teacher | St: <i>Là, je veux, là je vas le faire à pied.</i> [Error-lexical] T4: ... <i>avec mon pied.</i> [Feedback – recast] St: ... <i>avec mon pied.</i> [Repair repetition] |
| Incorporation | Repetition of the correct form supplied by the teacher in the feedback, which is then incorporated into the student’s longer utterance | St: <i>Mais, mais, elle nous a appelés le matin puis un dimanche Diana et son frère ils ont venu chez moi</i> [Error-grammatical]; T3: <i>Sont venus</i> [Feedback – recast] St: <i>Sont venus chez moi pour jouer</i> [Repair – incorporation] |
| Self-repair | Self-correction made by the student who made the original error in response to the teacher’s feedback that did not include the correct form of the error | St: <i>La marmotte c’est pas celui en haut?</i> [Error – gender] T3: <i>Pardon?</i> [Feedback – clarification] St: <i>La marmotte c’est pas celle en haut?</i> [Repair – self] |
| Peer-repair | Correction made by a student, other than the one who made the initial error, in response to the teacher’s feedback | St: <i>J’ai apporté du pita bread. Le pita, c’est la même chose</i> [Error-multiple] T: <i>Oké, mais pita bread, comment tu pourrais dire ça tu penses?</i> [Feedback – elicitation] Stdif: <i>Le pain pita</i> [Repair – peer] |

2.3.2.1. Uptake and CF techniques

Arguably, the idea of “uptake” first came on the SLA radar with the appearance of Chaudron’s (1977) descriptive study of the different types of CF provided by teachers in French immersion, which revealed that some CF techniques (e.g., repetition with emphasis) led to more immediate reformulation on the part of the learners than did other techniques (e.g., repetition without

emphasis). Later, in another descriptive study, Doughty (1994) observed a variety of CF types used by a teacher in a beginner level French-as-a-foreign-language classroom. The most frequent types of feedback were clarification requests, repetitions, and recasts; of these, recasts were supplied the most (60%). Although the teacher responded to over 40% of *both* correct and incorrect learner utterances, there seemed to be a pattern to the teacher's responses - feedback given in response to a correct utterance was in the form of repetition; feedback targeting a single-error utterance was either in the form of a recast (68%) or a clarification request (23%). In terms of the learners' responses (i.e., uptake), the results revealed that the learners did not react very often to any of the three types of feedback, but when they did, their responses usually followed recasts (61 of 284 recasts were repeated). This led researchers to consider various characteristics of recasts and their relationship to L2 learning. Other descriptive classroom studies confirmed that the most frequent type of feedback provided to learners was the recast, but they were less likely to lead to learner uptake in that they often failed to produce *immediate* reaction to the feedback from the learner (Havranek, 1999; Lyster & Ranta, 1997; Panova & Lyster, 2002; Lochtmann, 2002; Sheen, 2004, 2006).

In their observational study of four French immersion classrooms (grades four and five), Lyster and Ranta (1997) analyzed 18.3 hours of interaction between 104 students and four French-English bilingual teachers. The data were coded in terms of the types of feedback the teachers provided and the kinds of uptake these produced. Six feedback types, namely recasts, explicit feedback, elicitation, metalinguistic feedback, repetition, and clarification requests, were identified. The analysis of the relationship between the types of CF and the learner uptake revealed that while recasts were used the most by the teachers (55% of the total number of teacher CF moves), they yielded the least uptake (31%). However, even though the other corrective techniques were less frequent, with elicitation accounting for 14% of the total teacher corrective moves, clarification requests for 11%, metalinguistic feedback for 8%, explicit

correction for 7%, and repetition for 5%, they produced higher rates of uptake. Specifically, elicitation led to uptake 100% of the time, clarification requests - 88%, metalinguistic feedback - 86%, repetition - 78%, and explicit correction - 50%. Furthermore, the researchers noted that recasts were least likely to lead to student-generated repairs (0%), which contrasted sharply with the results generated for elicitation (43%). Interestingly, these findings were confirmed by other classroom observation studies, which found a high frequency of recasts with little learner uptake in adult ESL (Panova & Lyster, 2002) and EFL (Slimani, 1991) classes as well as in German foreign language classes in Belgium (Lochtman, 2002). In her investigation of the occurrence of the different CF techniques and the uptake they produce, Sheen (2004) investigated four instructional contexts – French immersion, ESL in Canada, ESL in New Zealand, and EFL in Korea. While for the most part, the results were comparable across the contexts in terms of frequency of occurrence and the amount of generated uptake, recasts seemed to occur more often and yield more uptake in the New Zealand (frequency: 68.3%; uptake: 72.9%) and Korean (frequency: 82.8%; uptake; 82.5%) contexts. This was explained by the fact that the corrective intent of recasts becomes more apparent to learners in the highly structured foreign language contexts than it often is in the highly communicative language learning environment of Canada (Sheen, 2004).

In a follow-up study to Lyster and Ranta (1997), Lyster (1998a) expanded the classification of recasts to include four sub-types (detailed in Table 3): (1) isolated declarative, (2) isolated interrogative, (3) incorporated declarative and (4) incorporated interrogative. The results indicated that the type of recast used by the teacher was directly responsible for the amount of uptake it generated. Isolated declarative recasts occurred the most ($n = 251$) and produced more uptake and repair ($n = 66$) than isolated interrogative recasts (frequency: $n = 46$; repair: $n = 1$), incorporated declarative (frequency: $n = 64$; repair: $n = 0$) and incorporated interrogative (frequency: $n = 16$; repair: $n = 0$) recasts. The results of this descriptive study point to the fact, argued Lyster, that reduced recasts

make it easier for learners to compare the erroneous form of their utterance and the correct form of the target because such recasts help to identify the locus of the error, thus reducing some of the attentional burden off of the working memory. Such a claim, however, cannot be made based on descriptive research alone. Studies that investigate cognitive processes underlying uptake are needed to empirically determine the grounds for such a claim.

Table 3

Functional properties of recasts, from Lyster (1998a, pp. 58-59)

| Type of recast | Definition | Example |
|----------------------------|---|---|
| Isolated declarative | Confirms the learner's message by correctly reformulating all/ part of the utterance; falling intonation; no additional meaning | St.: <i>Avant que quelqu'un le prendra.</i> T3: <i>Avant que quelqu'un le prenne.</i> |
| Isolated interrogative | Seeks confirmation of the learner's message by correctly reformulating all/ part of the utterance; rising intonation; no additional meaning | St.: <i>On pense que, qu'il est prisonnière, comme, um, quelque part.</i> T4: <i>Prisonnier?</i> |
| Incorporated declarative | Provides additional information by incorporating the correct reformulation of all/ part of the learner's utterance into a longer statement. | St.: <i>Ou une bateau.</i> T5: <i>Oui, c'est vrai que ça pourrait être un bateau, mais là on donne des adresses.</i> |
| Incorporated interrogative | Seeks additional information by incorporating the correct reformulation of all/ part of the learner's utterance into a question. | St.: <i>Elle changer de couleur.</i> T3: <i>Pourquoi elle change de couleur?</i> |

One such study was conducted by Sheen (2006) to examine the relationship between different characteristics of recasts and the rate of uptake/ repair they generate in adult learners of English. The data came from two 'intensive' ESL communicative classes in New Zealand ($n = 24$) and two "free-talking" EFL classes in Korea ($n \sim 12$), as described in Sheen (2004). The findings suggest that recasts that are pronunciation-focused, declarative, short, reduced (focus on just one word/ small part of the learner's erroneous utterance), repeated, with a

single error-focus, or involve substitutions instead of deletions or additions are more likely to lead to uptake and repair than their long, interrogative, incorporated, and metalinguistic counterparts. This is because recasts of such form are more explicit than implicit and make the target of correction more salient, rendering the teacher's correction more noticeable to the learners. The findings of this study, then, empirically support Lyster's (1998a) claim for the cognitive comparison that uptake entails. In fact, the literature on the subject shows that recasts that focus on a single error in a learner's incorrect utterance are more likely to lead to uptake and repair (e.g., Chaudron, 1977; Roberts, 1995). Furthermore, reduced recasts lead to more noticing, a conclusion supported by recent studies as well (e.g., Nicholas *et al.*, 2001; Ammar & Sato, 2010a).

2.3.2.2 Uptake as a measure of noticing

Several studies have been undertaken to investigate uptake in relation to the noticing of feedback. One such inquiry was conducted by Mackey *et al.* (2000), where uptake was defined as "the learners' modification of their original utterance following the NS's provision of feedback through recasts or negotiation" (p. 492). The results pointed to the learners accurately recognizing the corrective intent of feedback on their lexical, semantic and phonological errors, but not on the morphosyntactic problems. A further investigation revealed that in terms of uptake, only 52% of all feedback moves resulted in student modification of the original utterance. Of these, 66% of the feedback was accurately perceived in relation to phonological errors, followed by 19% to lexical and 15% to the morphosyntactic ones. Of the 48% of all the feedback that did not result in uptake, the target of feedback was not noticed by the learners 89% of the time. Hence, uptake is a sign of noticing in the sense that whenever it occurs, there is a 66% chance that the learners have noticed the CF.

Uptake was redefined once again in the study conducted by Ellis, Basturkmen and Loewen (2001), who investigated the amount of uptake in Form-Focused Instruction¹⁷ (FFI) delivered during unplanned (reactive)¹⁸ and planned (pre-emptive) discussions of form (Form-Focused Episodes, FFEs). Here, uptake referred to the learner's utterance, which was optional, and could occur not only after feedback, but also after any utterance (made by anyone) that provided information about a target feature. For Ellis *et al.* (2001), successful uptake in pre-emptive FFEs is equal to an overt indication on the part of the learner that the linguistic feature has been understood. Successful uptake in reactive FFEs, in turn, is demonstrated by the learner's use of the corrected form after receiving feedback. Two teachers and 24 adult ESL learners in New Zealand participated in twelve hours of communicative teaching interactions. The results revealed that overall 73.9% of all FFEs were followed by uptake, of which 74.1 % were successful. Furthermore, uptake was observed after 75.3% of the reactive FFEs and 83.6% of the student-initiated pre-emptive FFEs. In terms of techniques, prompts, clarification requests and repetitions yielded 100% uptake when the focus was on form. Similarly, recasts also resulted in a high amount of uptake (71.6%), of which 76.3% was successful. This finding was further corroborated by Loewen (2004), who in an attempt to demonstrate the types of feedback that would be more successful in leading to more uptake, analysed 1,373 FFEs to reveal that elicitation and explicit correction produced more uptake.

Yet another study suggested that learners do indeed notice recasts in a classroom setting. Ohta (2000) investigated the "private speech" – "oral language addressed by the student to himself or herself" (p. 52) - learners produced in reaction to the teacher's feedback. Set in Japanese as a foreign language classroom, where the focus of instruction centered on grammar and metalinguistic knowledge, the study revealed that learners were more likely to notice recasts when they were directed either toward another student or to the whole class, and not when the recasts were directed to the learners' own errors.

This finding, Ohta claimed, confirms that recasts are noticed by students in a class, even if they do not lead to uptake from the actual student who has originally made the error. This assertion, however, has been questioned since the accuracy-driven context in which the study was conducted coupled with the fact that the participants were wearing microphones (and were aware of the fact that their interactions were being recorded, which may have raised their awareness of the treatment at hand, thus rendering recasts more salient) could have influenced the learners' ability to notice recasts (Nicholas *et al.*, 2001). In fact, as Nicholas *et al.* (2001) suggested, the grammar-oriented classroom in which the study was conducted may have afforded recasts more salience; a similar conclusion was reached by Sheen (2004).

Finally, Mackey and Philp (1998) examined the effects of “intensive” recasts – recasts that repeatedly focus on a particular linguistic item in a communicative discourse - on the production and learning of English questions. Working in 35 NS-NNS dyads, adult learners of English were asked to engage in three info-gap tasks (picture drawing, story completion and story sequencing) designed to elicit and produce questions. The NSs were instructed to recast any non-targetlike utterances, paying special attention to the errors in questions and targeting these as much as possible. Responses to recasts (i.e., uptake) were categorized in four different ways: (1) continue, (2) repeat, (3) modify, and (4) other. In the “continue” type of response, the learner could either acknowledge the recast with a sound (e.g., “hmm”) or simply continue with the task. In the “repeat” response, the participant simply repeated the recast partially or in its entirety, while the “modify” condition called for some kind of modification (not repetition) of the recast. And finally, the “other” condition signalled that in some cases a response was not possible for one reason or another (e.g., change of topic). The results revealed that the participants rarely modified their utterances immediately after a recast, but if they were at a higher stage of question development (i.e., the “readies”), they were more likely to benefit from recasts than their less advanced counterparts (“unreadies”), for whom the

presence or absence of recasts in an interaction seemed to make little difference. This led the researchers to conclude that the corrective nature of the recast is more likely to be perceived and learned from by more developmentally ready learners and that simple repetition of a recast does not constitute L2 learning.

To sum up, the studies that have examined the noticeability of recasts as a function of uptake show conflicting results. While some descriptive studies suggest that recasts lead to the least amount of uptake (Lyster & Ranta, 1997; Panova & Lyster, 2002) because they are not always noticed by learners, others support the noticeability of recasts (Ellis *et al.*, 2001; Ohta, 2000; Sheen, 2006). Still, some laboratory studies demonstrate that recasts generally go unnoticed by learners (Mackey *et al.*, 2000) and their noticeability is not contingent on uptake (Mackey & Philp, 1998). In fact, the use of uptake as a measure of awareness has been questioned by some (e.g., Leeman, 2007; Ortega, 2009) because uptake is not seen as “a robust measure of learner noticing nor of the utility of feedback for L2 development, as it should not be assumed that learners will verbally acknowledge all feedback that they notice” (Leeman, 2007, p. 122). In other words, absence of uptake does not necessarily mean that feedback has not been noticed. It could simply imply that the learner (1) does not see the importance of reacting to the teacher’s correction or (2) is unable (due to context, for instance – as in interaction, where recasts do not require a reaction from the interlocutor) or developmentally “unready” to overtly react to the feedback. The use of uptake as a measure of noticing is particularly problematic for recasts because, as Long (2006) cautioned, learner reaction to a recast does not necessarily reflect the source of the learner’s knowledge for it is impossible to tell whether the reaction to feedback is an example of newly-acquired knowledge or simple activation of the learner’s prior knowledge.

In contrast, Mackey *et al.* (2000) reported that even though many NNSs claimed not to notice feedback, they produced output in response to such feedback. Hence, simple repetition of feedback cannot imply that the

correction has been noticed, understood, or incorporated (Gass, 1997). Instead, the resulting repair may simply be “mimicking” (Gass, 2003, p. 236) of the feedback received, with no analysis or revision done to the learners’ interlanguage. After all, repetition of recasts in NS-NNS interactions has been shown not to lead to L2 learning with Mackey and Philp (1998), calling them “red herrings”. In the same vein, Philp (2003) found no relation between noticing of feedback and L2 production. Panova and Lyster (2002) attributed this lack of L2 development to the fact that recasts are both initiated and completed by the teacher and not worked-out by the learners themselves.

However, the amount of repetition, in large part, depends on the context in which recasts are provided as feedback. This is because “the classroom context (particularly the communicative and/or content-based classrooms) may make it difficult for learners to identify recasts as feedback on form and hence difficult for them to benefit from the reformulation that recasts offer. The exception may be some foreign language classrooms in which students’ and teachers’ focus is more consistently on the language itself” (Nicholas *et al.*, 2001, p. 744). Research has shown that recasts lead to uptake in Korean EFL classrooms (Sheen, 2004) as well as in ESL classrooms in New Zealand (Ellis *et al.*, 2001; Sheen, 2004), but not in French immersion (Lyster & Ranta, 1997) or Canadian adult ESL (Panova & Lyster, 2002) contexts. The lack of uptake following recasts in content-based classrooms is rooted in their ambiguity. Lyster (1998a) reported that recasts have the same form as non-corrective repetitions and are used with the same frequency. As such, they may be perceived by learners as another way to say the same thing or as positive reinforcements of meaning and not as reactions to problems with form (Long, 1996). As mentioned earlier, Lyster and Ranta (1997) found that learners did not immediately respond to recasts as often as they did to other corrective techniques, rendering the resulting limited uptake as a sign that learners did not notice the recasts’ corrective intent. Sheen (2004), however, found that recasts lead to more uptake in the more structured foreign language classrooms and that reduced recasts are

more noticeable by learners in communicative contexts (Sheen, 2006; Ammar & Sato, 2010a). Furthermore, the rate of uptake and successful repair depends on the type of recast used (Lyster, 1998a; Sheen, 2006) as was the case in Lyster's (1998a) study where isolated declarative recasts were repaired 23% more often than the incorporated recasts (0%).

Hence, the noticing research to date has primarily focused on the noticeability of recasts, rarely comparing it to the other CF techniques. While studies that used uptake as a measure of noticing yielded conflicting and, for some, questionable results (Nassaji, 2009), investigations that implemented recall protocols to measure the noticeability of CF suggest that the learners' ability to recognize recasts as corrective moves is limited in terms of error type (Mackey *et al.*, 2000), length (Philp, 2003), explicitness of the recast (Ammar & Sato, 2010a) as well as by a cohort of individual variables that are mostly psycho-cognitive in nature (i.e., learner's proficiency level (Philp, 2003), working memory capacity (Mackey *et al.*, 2002), and attention switching ability (Ammar & Sato, 2010a). What this body of research has yet to consider is the differential noticing of recasts and prompts, to determine if noticing is regulated by other individual variables, and to use a measure that allows for more reports of noticing. Before considering how the noticing of CF may affect L2 development, it is necessary to examine the research that has looked at the effectiveness of CF, which is the focus of the next section.

2.4 The effectiveness of CF

In recent years, descriptive and experimental studies alike have examined a variety of variables (e.g., types of feedback, their distribution in L2 classrooms, amount of feedback, learners' proficiency level and age, instructional context, attitudes towards CF, etc.) to determine the role(s) they may play in mediating the effectiveness of CF on L2 learning. While researchers generally agree that providing feedback in one form or another

brings about significant gains in learners' performance on post-tests than does ignoring errors (Russell & Spada, 2006; Mackey & Goo, 2007; Lyster & Saito, 2010), there is still disagreement on what makes CF work. A major source of disagreement has centered around the effectiveness of the different kinds of feedback, with a large number of studies questioning the potential benefits of recasts when compared to the negotiation for meaning techniques (Oliver, 1995), prompts (Lyster, 2004; Ammar & Spada, 2006), and metalinguistic explanations (Carroll & Swain, 1993; Havranek, 1999; Ellis *et al.*, 2006; Yang & Lyster, 2010).

The prominence of recasts as the subject of this SLA research is due to a number of reasons. First, research on recasts in first language acquisition has demonstrated developmental gains on certain morphosyntactic features (e.g., present progressive and plurals, Farrar, 1990) made by children exposed to recasts (Farrar, 1990, 1992; Saxton, 1997), which brought about much interest on how this technique might affect SLA. Researchers began studying interactions between native (NS) and non-native (NNS) L2 speakers and found developmental benefits for such interactions (e.g., Pica, 1992; Doughty, 1994; Mackey 1999). Looking to isolate features that benefited these interactions, researchers identified various types of CF, including recasts, which were not only used often in NS-NS, NS-NNS, and NNS-NNS communications but also seemed to result in language learning (e.g., Long, Inagaki & Ortega, 1998; Mackey & Philp, 1998). Second, from the psycholinguistic perspective, recasts are said to contain two types of linguistic evidence – positive and negative – which are believed to benefit L2 acquisition (Long, 1996; Doughty & Varela, 1998; Doughty & Williams, 1998). Recasts are said to (1) help learners notice the difference between their original utterance and the target-like reformulation (Schmidt, 1990; 2001; Long, 1996) and (2) free up processing mechanisms by allowing learners to consciously focus on form (VanPatten, 1990, 2004). Finally, pedagogically, recasts are a widely-used corrective technique both in ESL and EFL contexts (e.g., Doughty, 1994; Lyster & Ranta, 1997; Panova &

Lyster, 2002; Sheen, 2004) and are considered an ideal feedback technique because they are implicit yet salient, do not impede on the communicative flow, and simultaneously provide negative and positive evidence by keeping the focus on meaning (Doughty & Williams, 1998; Long, 1996). This view, however, has been challenged by some researchers, who claim that positive evidence alone is sufficient for L2 learning (Krashen, 1981) and that negative evidence brought about by CF does not only evoke negative reactions in learners, interrupting communicative flow, but may also impede language development altogether (Truscott, 1999).

2.4.1 The role of CF types in L2 learning

The types of CF are usually categorized in terms of their implicitness or explicitness. While recasts have often been accorded the implicit tag (Long, 1996; Long & Robinson, 1998), they may be quite explicit (Sheen, 2006) in terms of the context (e.g., Sheen, 2004; Lyster & Mori, 2005), type of instruction in place (Norris & Ortega, 2000; Nicholas *et al.*, 2001; Mackey & Goo, 2007), linguistic target (e.g., Long *et al.*, 1998), learner developmental readiness (e.g., Netten, 1991; Mackey & Philp, 1998; Ammar & Spada, 2006), length and number of changes within it (e.g., Philp, 2003) as well as when recasts are combined with other CF techniques (Doughty & Varela, 1998). The same applies to the explicit types of feedback, which usually include prompts¹⁹ and explicit correction, in that they may be implicit when they simply indicate the error (e.g., Carroll & Swain, 1993) or include the correct form (Lyster & Ranta, 1997) but more explicit when they provide metalinguistic information (Ellis *et al.*, 2006) and the correct form together (Sheen, 2007).

R. Ellis (2006) offered an alternative way of classifying CF types: whether CF is directed at input (i.e., input-providing) or at getting the learner to modify his/her own output (i.e., output-pushing). Because recasts and explicit correction provide correct reformulations of the error, they fall under the input-

providing category whereas prompts belong to the output-pushing type because they do not supply the correction but with the help of certain cues (clarification requests, elicitation, metalinguistic clues, and repetition of the error) call on the learner to self-correct (Lyster, 2002; Lyster & Mori, 2006; Ranta & Lyster, 2007). In terms of the cognitive processing involved, the input-providing feedback types are said to rely on comparisons in the working memory to (1) help learners notice the difference between their original utterance and the target-like reformulation (Schmidt, 1990; 2001; Long, 1996) and (2) free up processing mechanisms by allowing learners to consciously focus on form (VanPatten, 1990, 2004). The latter reason is of a special significance since learners are generally unable to simultaneously focus on both meaning and form (VanPatten, 1990). However, the input-providing CF types are thought to enable the learners to focus on the form and to keep the meaning stable. In fact, VanPatten (1990) showed that when input is made comprehensible, L2 learners are able to focus on the form of the utterance. As for the output-pushing category, the teacher's use of prompts engages the learners in the retrieval of the information available to them in their long-term memory in order to self-repair.

Recasts and prompts also vary in terms of the type of evidence they provide. Although recasts are said to provide positive evidence, it is not clear whether they provide negative evidence as well since the learners might not realize the corrective nature of the recast (Nicholas *et al.*, 2001). To determine what aspect of recasts – negative or positive evidence – account for the benefits attributed to recasts in numerous SLA studies, Leeman (2003) designed a laboratory-based study, in which she examined the effects of recasts on the acquisition of number and gender agreement among L2 learners of Spanish. The participants ($n = 74$) were randomly assigned to three experimental and one control groups. The experimental conditions included: (1) recasts, which provided learners with enhanced positive evidence and negative evidence in that the researcher provided a partial recast immediately following the error; (2)

negative evidence, which clearly indicated to the learner that the form was incorrect but did not provide a targetlike reformulation; and (3) enhanced salience of positive evidence, which did not provide any feedback but the researcher used stress and intonation to make the target form more salient to the learner. The control group (i.e., ‘unenhanced positive evidence’) received no feedback on form and no enhanced positive evidence. It is also important to note that none of the participants was given the opportunity for uptake following instances of feedback. The study employed a pre-test/post-test/delayed post-test design, with the delayed test being administered one week after the post-test. The treatment included learner-researcher interactions, during which the two engaged in information-gap type activities (i.e., an object-placement task and a catalogue-shopping activity) that created obligatory contexts for the use of noun-adjective agreement. The results revealed that at the immediate post-test both the recast and the enhanced salience groups improved significantly more than the negative evidence and the control groups on the two structures of interest (and this was, despite the lack of significant differences on the pre-test). On the delayed post-test, however, only the enhanced salience group significantly outperformed the control group on the gender agreement structure. These findings were interpreted to show that it is the enhanced salience, and not the implicit negative evidence, that makes recasts effective.

However, the interpretation of the results provided by the author should be considered carefully for several reasons. First, this is the only study of its kind in L2 research on CF and as such, no definite conclusions can be made. Second, the fact that enhanced salience was found to make recasts effective does not exclude a potential beneficial role negative evidence might play in the acquisition of L2 morphemes. This, in fact, was acknowledged by Leeman, who speculated that enhanced salience cannot be considered as the only contributor to the effectiveness of recasts. And finally, the example given for the negative evidence condition (in response to the ill-formed “On the table there’s a *red

cup”, the researcher responded with “Um hmm, but you said a *red cup. What else?”, p. 49) is not without problems. One of the issues lies in Leeman’s definition of the condition, which was designed with two goals in mind: (1) “to inform the participants of the unacceptability of the original utterance implicitly and (2) to indicate the specific source of the problem” (p.49). It is unclear how “Um hmm” signals unacceptability of the student’s utterance because it can actually be interpreted as a confirmation of the truth value of what was said, as in “yes, there is a cup on the table”. Furthermore, the “but you said a *red cup” does not really specify the source of the problem because it could be thought of as a signal that another colour should have been mentioned (as in, “the cup is really green, not red”). As such, this example does not inform the learner about the unacceptability of the form or identify the locus of the problem; instead, it can be seen as a confirmation of the meaning of the utterance or as a prompt to supply a different lexical item, making the feedback move rather ambiguous. This ambiguity is exacerbated further by the fact that the participants were not allowed to uptake. Because Leeman’s reply in the example resembles the structure of a prompt in the form of repetition (as defined in Lyster & Ranta, 1997, p. 48), with the exception of the absence of stress, it may be argued that opportunities for uptake should have been made possible because, by definition, prompts require production of output. However, since the participants were not allowed to react to the feedback, it is problematic to claim that the study actually measured the effects of negative evidence.

The effectiveness of recasts, some argue, does not so much depend on the type of evidence they contain (positive, negative or both), but on the learners’ perceptions of recasts (e.g., Egi, 2007b; Ellis & Sheen, 2006). To empirically examine whether learners’ interpretations of recasts translates into L2 learning, Egi (2007b) investigated the functions (i.e., responses to content, negative evidence, positive evidence, or a combination of positive and negative evidence) L2 learners of Japanese (NNS) assigned to recasts that they noticed in their interactions with native speakers (NS) of the language. The NNS-NS

dyads held two conversational sessions to complete picture description and spot-the-difference tasks, during which the NS provided feedback to the NNS on his/her morphosyntactic and lexical errors. To collect instances of noticing, the NNSs engaged in online ($n = 31$) and retrospective ($n = 18$) verbal reports held by the NSs during (immediate reports, cued by two knocks on the table) and immediately after (stimulated recall, facilitated by video clips from the treatment sessions) the interactions. During the verbal recall, the NNSs were prompted to report their thoughts (in English) “without elaboration or reasoning” (Egi, 2007b, p. 256-7). The resulting instances of noticing were then categorized in terms of (1) the learner noticing (or not noticing) the recast, and (2) the aspect of the recast that was noticed. When the semantic aspect of the recast was noticed, it was classified as “response to content”. However, the reports of grammatical form noticing were categorized as either negative (i.e., comments indicating that the NNS recognized that an error had been made and/or that he/she received a recast) or positive evidence (i.e., comments indicating that the NNS noticed the targetlike model contained in the recast). And finally, when the learner attended to both types of linguistic evidence (i.e., when the NNS recognized that an error had occurred *and* was corrected by a recast), a “negative + positive evidence” classification was used. The results revealed that of the 307 recalled recasts, 177 (or 57.65%) received one of the interpretations detailed above (response to content: 16.95%; negative evidence: 35.03%; positive evidence: 19.77%; negative + positive evidence: 28.25%). In terms of the relationship between the NNSs interpretations of recasts and their L2 development, the results suggest that learners’ performance depends on how they interpret recasts. Overall, the L2 knowledge improved when the learners recognized recasts as negative and/or positive evidence than when they interpreted them as responses to content. Furthermore, the learners who recognized recasts as positive evidence or “negative + positive” evidence showed significantly greater learning outcomes in the short-term than did those who interpreted them as responses to content. What’s more, the recognition of

recasts as negative evidence alone did not result in significantly greater learning. As for the impact of noticing in relation to the target linguistic forms, the findings show that lexical items were learned more readily than their morphosyntactic counterparts when the learners noticed positive evidence in recasts. However, noticing of positive and/or negative evidence in recasts did not result in higher gains for morphosyntactic items.

Prompts, on the other hand, provide negative evidence because they cue the locus of the problem and push students to self-correct, which is said to aid learners to juxtapose what they already know and to restructure their interlanguage based on the self-repair process (Lyster, 2002). In fact, when two or more feedback techniques are compared, the one that makes the presence of an error explicit (such as explicit correction and prompts) leads to a markedly improved learner performance than does the one that simply implies it (as recasts often do). This conclusion was first outlined by Norris and Ortega (2000) in their meta-analysis of 49 instructional studies that looked at such pedagogical choices as metalinguistic explanations, input manipulations and provision of different feedback types. More recently, a meta-analysis of 15 classroom-based studies (Lyster & Saito, 2010) that investigated the pedagogical effectiveness of three types of oral feedback (recasts, prompts and explicit correction) reiterated the superiority of prompts over recasts in leading to language development. Specifically, the analysis concluded that while the overall presence of feedback (regardless of type) is more advantageous to learning than its absence, prompts are more beneficial than recasts in L2 development:

CF in a classroom setting may be more effective when its delivery is more pedagogically oriented (i.e., prompts) than conversationally oriented (i.e., recasts). [This is because] learners appear to benefit from the positive evidence available in recasts as well as from the opportunities they provide to infer negative evidence, but these learners seem to benefit even more from the negative evidence available in

prompts and from the greater demand they impose for producing modified output (Lyster & Saito, 2010, p. 290).

2.4.2 Classroom studies

The effectiveness of recasts and prompts seems to depend on the context in which they are investigated. This is because while classroom studies generally find prompts more effective, laboratory research attributes recasts a facilitative role in L2 development. Havranek (1999), for example, analyzed tapes of language lessons conducted in secondary schools ($n = 54$) and in university ($n = 18$) as well as questionnaires completed by the participants²⁰ to determine the type(s) of feedback the learners recalled and learned from the most. Three feedback conditions were investigated: (1) recasts only, (2) recasts + learner repetition, and (3) elicitation of the correct form, followed by a correction and the student repetition of the correction. The results revealed that recasts only and recasts + repetition were recalled the least²¹ and yielded no significant improvement on the post-test. The elicitation condition, on the other hand, was recalled less than the recasts + elicitation group but led to more post-test improvements than the recasts only and recasts + elicitation combined. Hence, despite having been recalled more often, recasts were less effective than elicitation in leading to language learning. This finding is of special interest since the study was conducted in grammar-oriented classes, where learners are conditioned to focus on the form of an utterance, making the identification of recasts as feedback more likely (Ohta, 2000; Sheen, 2004) than in the meaning-oriented contexts (Lyster, 1998a; 2007; Sheen, 2004).

A classroom study conducted in an immersion environment by Lyster (2004), for example, found that prompts were more effective than recasts in facilitating acquisition of grammatical gender among young learners of French ($n = 179$). Four form-focussed instruction (FFI) conditions were investigated: (1) recasts + FFI, (2) prompts + FFI, (3) FFI only and (4) control. To determine

the effects of the conditions on the participants' knowledge of the target feature, the learners were asked to complete two written and two oral tasks on three different occasions (pre-test, immediate post-test, and delayed post-test). The results showed that the prompt + FFI condition was the most effective in the four tasks in leading to target acquisition at both post-tests. The recasts + FFI condition was significantly better than the control group on the two written tasks at both post-tests and on the two oral tasks at the delayed post-test. Furthermore, the recasts + FFI group was outperformed by the prompts + FFI condition on the two written measures at the immediate and delayed post-tests.

Similarly, Ammar and Spada (2006) found prompts to be more effective than recasts in the acquisition of the English third person possessive determiners (PDs) *his* and *her* by young French L1 speakers. Three grade 6 intact intensive ESL classes ($n = 64$) were assigned to two experimental and one control groups. For a period of four weeks, all the groups received instruction on PDs and participated in 11 practice sessions, during which only the treatment conditions received CF. The participants' knowledge of the target structure was tested immediately prior, immediately after, and four weeks after the instructional period. The results revealed that, overall, CF is very effective in the teaching of grammar. In particular, prompts were more effective than recasts for the L2 learning and the effect of feedback largely depended on the learner's proficiency level. That is, while high proficiency learners (with pre-test scores above 50%) benefited equally from the two corrective techniques, their low proficiency counterparts (with pre-test scores below 50%) benefited much more from prompts than from recasts.

With adult learners of English in a private language school in New Zealand ($n = 34$), Ellis *et al.* (2006) showed that metalinguistic feedback (i.e., a prompt, where the error was repeated and a clue as to the problem was provided, as in "Kiss - you need past tense", p. 353) was more effective than recasts in leading to the acquisition of the English regular past tense - *ed*. The learners participated in two story narration tasks, during which they received feedback

either in the form of prompts (explicit feedback) or recasts (implicit feedback). Among the three participating classes, one received metalinguistic feedback with an opportunity to self-repair, the second group received recasts, and the third class received no feedback. Learning was measured by way of an oral imitation task, grammaticality judgment and metalinguistic knowledge tests, which were administered immediately after the intervention (the next day) and two weeks afterwards. The results showed that metalinguistic feedback group scored higher than the no feedback and recast groups on the delayed post-test for the oral imitation task. As for the grammaticality judgment task, the metalinguistic group scored higher than the recast group on the delayed post-test alone. Hence, the authors suggest that the metalinguistic feedback was more beneficial for the learners than the recasts because they were able to recognize its correct intent more readily than with recasts.

More recently, in the EFL context, Yang and Lyster (2010) investigated the effects of recasts, prompts and no feedback conditions on the learning of the English regular and irregular past tense by adult university-level learners ($n = 72$) in China. Randomly assigned to three groups, the learners participated in form-focused production activities during which they received feedback on form or content (as was the case for the control group). Both oral and written production was assessed by way of pre-, immediate post and delayed post tests. The oral production measure required the learners to first read a short story about a party and then to retell the story using a given set of word cues, which included content words, verbs, and adverbial phrases that indicated past time (e.g., “in the year 2000, fly...”, p. 246). The written production measure was in the form of a written narrative, where the learners were given a topic about which to compose a story and 12 random past regular and irregular verbs were to be included in it. The results showed that the participants were able to benefit more from prompts than recasts on the acquisition of the regular past tense in English on both immediate and delayed post tests. Yet, prompts and recasts had similar effects on the accurate use of irregular past tense.

Finally, the effectiveness of prompts over recasts has also found support in the studies on question development. Loewen and Nabei (2007), for example, compared the effectiveness of recasts to two types of prompts - clarification requests (e.g., “Pardon?”, p. 367) and metalinguistic feedback (e.g., “Can you think about your question again? It’s a good question but think about your form, your grammar form”, p. 367) – on the English question formation among two intact classes of Japanese ESL learners ($n = 66$). All but three students in the first class were randomly assigned to the feedback conditions ($n = 10$ for recasts; $n = 8$ for clarification requests; $n = 7$ for metalinguistic feedback); the remaining students in the first class and all the learners in the second class received no feedback ($n = 34$). During the treatment, which lasted 30 minutes, the participants worked with an NS and other learners in groups on spot-the-differences and guess-the-storyline tasks, during which the NS supplied feedback to ill-formed questions in line with the designation of each group. Language development was assessed by way of timed and untimed grammaticality judgment tests as well as the oral production task, which consisted of two spot-the-differences tasks similar to the ones used during the treatment. The results on the post-test revealed that all the treatment groups improved more than the control group in their production of questions, but there were no significant differences between the experimental groups. The authors attributed this to the shortness of treatment, saying that it was not long enough to “accentuate the differences among the types of feedback” (p. 374). However, in the earlier study, having analyzed 17 hours of meaning-based interaction, Loewen and Philp (2006) found that prompts led to more accuracy (75%) on the post-tests than did recasts (53%) in adult ESL classes ($n = 118$) in New Zealand. Despite the relatively low efficacy of recasts, the researchers felt that recasts are “productive for learners” and represent the type of feedback that is “pedagogically expeditious: A recast is time saving, less threatening to student confidence, and less intrusive to the flow of interaction than, for

example, elicitation of self repair. In addition, unlike explicit correction, recasts maintain focus on meaning” (p. 551).

Yet, some have argued (Han, 2008) that in order for recasts to affect morphosyntactic development in the classroom setting, their corrective intent needs to be made salient. This can be done by first having teachers ascertain the meaning the learner is trying to convey and then, have them provide recasts in those instances; this feedback needs to be consistent and focus on one grammatical feature. This was probably the intent of Doughty and Varela’s (1998) investigation of the effects of “corrective recasts” versus no feedback on the acquisition of the past tense among 11- to 14-year-old ESL learners ($n = 34$) attending a compulsory science course. As part of the course, the students were required to produce written and oral reports about the experiments they conducted. While those in the recast condition received feedback on their written and oral reports²², the students in the control group did not. The participants’ knowledge of the target structure was tested by way of a written and an oral task three times: before the intervention, immediately after it, and again two months after that. The results showed that on the immediate post-test the recast group attained significant gains on both the oral and written tasks, but that the control group showed no progress on the oral task and a slight, yet significant improvement on the written task. The delayed post-test results, in turn, revealed that while the recast group was able to retain the gains they showed on the oral post-test, the participants’ performance on the written measure changed in three ways: (1) the targetlike use of the past tense was not maintained, (2) the interlanguage gains decreased, and (3) the non-targetlike use of the past tense increased. Yet, no change from the immediate to delayed post-test was revealed for the control group.

While these findings led Doughty and Varela to conclude that the use of corrective recasts in content-based classrooms is effective in leading to L2 development, others (Lyster, 1998a; Nicholas *et al.*, 2001) questioned this conclusion, suggesting that the recasts implemented in the study vastly differed

from the simple conversational recasts. The difference lay in the way the recasts were operationalized and implemented. Doughty and Varela defined “corrective recasts” as both attention-getting and target-form providing. To attract the learner’s attention to the presence of an error, the teacher would repeat the ill-formed utterance stressing the incorrect form. If the learner failed to come up with a correct form following the initial correction (repetition with emphasis), a recast of the correct form would be provided, which the learner was then required to repeat (target-like reformulation). In other words:

The teacher would repeat a phrase containing an incorrect past verb, putting the error in focus by using stress and rising intonation to prompt the student to notice the non-targetlike form. Recasts were then used when the student did not attempt any past tense reference at all. In such a recast, the teacher provided the exemplar needed, using falling intonation and, once again, emphasising the verb with added stress (Doughty & Varela, 1998, p. 124).

In terms of implementation, some of the teacher’s in-class behaviours (e.g., choral repetition of the correct form, focussed attention on the accuracy of the past tense in videotaped oral reports, etc.) could also have been responsible for the learning gains in the recast group since these explicitly signalled the presence of an error. As such, it is difficult to ascertain which variable in these “corrective recasts” aided the learners to acquire the past tense. What is clear, however, is that recasts can be made effective in L2 classrooms when they are accompanied by a cue alerting learners that the focus is being placed on the form, and not the meaning, of their utterance (Doughty, 2001). Conversely, recasts with no special focusing element tend to go unnoticed and are unlikely to lead to significant interlanguage changes (Havranek, 1999).

Hence, the classroom studies point to prompts as being more effective than recasts in bringing about learning gains. This is because the corrective intent of prompts is made clear to learners by way of cues and the need to self-repair. Recasts, on the other hand, often go unnoticed by learners because of

their frequency in the input (e.g., Farrar, 1990; Morgan, Bonamo & Travis, 1995 for L1 research; Chaudron, 1988; Netten, 1991; Lyster & Ranta, 1997; Lyster, 1998a, 1998b for L2 research) and the functional properties of the technique (Farrar, 1990). In the L1 research, Farrar (1990), for example, identified four roles for recasts: (1) to reformulate the child's utterance (i.e., make a corrective change in the original sentence), (2) to expand on the utterance, (3) to maintain the topic of conversation, and (4) to themselves be the reply to what the child has said. A close examination of the four reveals that they, in fact, can be separated in terms of the corrective or non-corrective functions they perform (Farrar, 1992). That is, while roles 2 through 4 signal various contributions to the management of an interaction (i.e., expansions, topic continuation, and reply provision), role 1 speaks solely to its form. Given that recasts do all these things, it is hard to know which of these actually contribute to learning. The picture gets more complicated with Farrar's (1990) additional finding that the corrective recasts were quite infrequent in the mother-child interactions he observed. This is because recasts not only perform multiple functions in naturalistic interactions, but their corrective property in these environments is also utilized the least.

The ambiguity of recasts in the L2 content-based and communicative classrooms was also observed by early descriptive studies (e.g., Chaudron, 1977, 1988; Fanselow, 1977; Schachter, 1981), which underscored the high frequency of occurrence of recasts in the treatment of oral errors. This frequency, however, was not considered as a plus since the teachers in these environments used recasts interchangeably to respond to both meaning and form of their learners' utterances. This, in turn, raised the question of whether or not learners noticed the teachers' modification at all, and if they did, then what did they interpret it as. Schachter (1981) argued that a recast (i.e., paraphrase) could be interpreted as a confirmation of the content rather than as a correction of the form of the utterance. Chaudron (1988) later speculated that a recast can also be "perceived as merely an alternative" (p. 145) to the

learner's original utterance. Soon after, Lyster (1998a) observed that in the immersion classrooms, recasts to form as well as the recasts used as "move-ons" (i.e., topic continuation) were as frequent as the non-corrective repetitions provided in response to learners' well-formed utterances. These, he argued, contributed to the ambiguity of recasts and made the learners' task to recognize the corrective intent behind the provided feedback an arduous task, especially in the content-based environments where awareness of form takes a back seat to that of meaning (see Sheen, 2004). The difficulty recognizing negative evidence in a recast was further reinforced by the observation that recasts, compared to the other feedback moves, yield the least amount of uptake in the content-based L2 classrooms (Lyster & Ranta, 1997).

2.4.3 Laboratory studies

In the laboratory context, recasts have been shown to positively affect language learning when no control group was involved (e.g., Ishida, 2004) and when they were compared with the no feedback condition (e.g., Han, 2002; McDonough & Mackey, 2006; Leeman, 2003). Furthermore, research on interactional feedback (e.g., Mackey & Philp, 1998; Iwashita, 2001; Egi, 2007a) has often conflated recasts (input-providing feedback type) with clarification requests (output-pushing feedback), making it difficult to ascertain which of the two affects learning. Basing on their data, Mackey and Philp (1998) reported that in some cases recasts can be "part of negotiation sequences and function as confirmation checks" (p. 342), a statement reiterated by Loewen and Philp (2006), in that "recasts in the context of conversation are often part of negotiation sequences and function as confirmation checks" (p. 540). The lack of categorical definitions for recasts and negotiation sequences (which often include confirmations or clarification requests, Iwashita, 2001; Mackey & Philp, 1998) moved Lyster and Saito (2010) to exclude many studies on interaction (e.g., Iwashita, 2003; Mackey & Philp, 1998; Oliver, 2000) from

their meta-analysis of studies that investigated the effects of oral CF on target language development and to instead focus on the investigations that used clearly defined recasts, explicit corrections, and prompts categories.

Those laboratory studies that compared recasts to another type of feedback have either yielded positive results for recasts alone (Long, Inagaki, & Ortega, 1998; Mackey & Philp, 1998) or for both recasts and prompts (McDonough, 2007; Lyster & Izquierdo, 2009). Long, Inagaki and Ortega (1998), for example, conducted two dyadic laboratory studies with learners of Japanese and Spanish to compare the effects of recasts, models, and no feedback. The researchers hypothesized that the learners in the two experimental conditions would significantly outperform those in the control group on their ability to produce the four targets of interest: adjective ordering and fronted locative constructions for the Japanese learners, and object topicalization and adverb placement for the Spanish students. Based on previous L1 research and an earlier study (Mito, 1993), the authors also expected that the learners in the recast (operationalized as “implicit negative feedback”) group would show greater gains than those in the models (“pre-emptive positive input”) and zero feedback conditions. Twenty-four young learners of Japanese took part in the first study, where they were randomly assigned to four experimental groups and one control group. While the learners in the experimental conditions took part in a communication game, during which they had to describe their actions in the L2, the controls practised the Kanji script. The treatment of errors differed between the recast and models groups in that the recast condition received reformulations in response to errors, while the models group heard prompts, which had to be repeated for the researcher to perform the said action. Surprisingly, the findings did not show any significant differences between the experimental and control conditions, and no differences in the effects between recasts and models.

The lack of differences between the conditions was attributed by Long *et al.* (1998) to the fact that 20 out of 24 participants had previously studied

Japanese and that the pre-test could have jogged their prior knowledge of the targeted structures. The selection of participants for the second study took this shortcoming into consideration and retained only those learners who reported no prior knowledge of the structures of interest. The results revealed that recasts were more effective than models in bringing about short-term gains on the use of adverb placement; this was also true of the two experimental groups in that they showed significant, albeit temporary, benefits over the control group. These results, however, were not confirmed for the object topicalization as no significant differences between the treatments and the control group or between the two treatments were found. The researchers offered three reasons to account for the learners' failure to learn the second target in the Spanish study. First, the adequacy of the instructional tasks was questioned. Second, object topicalization was deemed as more difficult despite the fact that, in accordance with the Pienemann and Johnston (1987) framework, the two features were deemed similar in terms of processing requirements. And finally, the fact that the learners in the models condition were required to repeat the model (i.e., produce output) could have made the focus on form more salient, resulting in similar gains across groups. In spite of these reasons, it may be argued that the treatments delivered under the same circumstances should have accounted for these differences.

Mackey and Philp (1998) investigated the effectiveness of recasts on the acquisition of English questions in the laboratory setting among adult ESL learners ($n = 35$) in Australia. The participants were randomly assigned to three groups: recast, interactor, and control. In the recast group, the native speakers (NS) provided the learners with feedback in the form of intensive recasts²³ in response to their ill-formed utterances produced during a picture description, story completion, and story sequencing tasks. While the interactor group participated in the same tasks but did not receive feedback, the control group only took part in the tests. L2 development was measured by way of spot-the-differences tasks, where by asking questions, the participants had to find ten

differences between his/her card and that of the NS. The researchers hypothesized that intensive recasts provided in response to ill-formed questions during an interaction would propel the learner's existing knowledge of the structure to a more advanced level than during an interaction without recasts. Since the developmental level of the learners in relation to the three different conditions of the study was a variable of interest, the 35 participants were classified according to their developmental readiness to learn the word order of questions. This resulted in two groups – 'readies' and 'unreadies'. The results revealed that if the participants were at a higher stage of question development ("readies"), they were more likely to benefit from recasts than their less advanced counterparts ("unreadies"), for whom the presence or absence of recasts in interaction seemed to make little difference. This led the researchers to conclude that the corrective nature of the recast is more likely to be perceived and learned from by those learners who are developmentally ready.

In the EFL context, McDonough (2007) compared the effectiveness of recasts to clarification requests on the learning of English simple past verbs (achievement and accomplishment) among Thai L1 university students ($n = 106$) enrolled in a bachelor's degree program in English. The premise was to compare the effectiveness of two seemingly implicit techniques that differ in the elicitation of learner responses, as recasts usually do not elicit learners' responses, but clarification requests push learners to modify their answers (pp. 323-324). The NS – NNS dyads engaged in communicative activities designed to elicit past tense verbs. The NSs provided one type of feedback (recasts or clarification requests) during the treatment tasks; the NNSs were randomly assigned to the feedback groups. Learning was measured by using the pre-test/post-test design by means of one-way information gap tasks. The results showed that both recasts and clarification requests were effective in bringing about the simple past verbs. Similarly, in the classroom context, Ammar and Sato (2010b) found explicit recasts more beneficial than the implicit recasts in

the learning of the past tense, questions, and the third person possessive determiners.

Finally, Lyster and Izquierdo (2009) investigated adult L2 learners' ($n = 25$) acquisition of the French grammatical gender in an intermediate level FSL class at an English-medium university. For a period of two weeks, all the participants were exposed to a three-hour form-focused instruction, after which they took a computerized binary-choice test (that served as a pre-test). Based on the results of the pre-test, they were assigned to either a recast ($n = 14$) or a prompt ($n = 11$) group. In dyadic interactions with a near-native speaker of French, the participants engaged in object-identification, picture description, and riddles tasks. Language development was measured by way of the binary-choice test, reaction-time measures, as well as the object-identification and picture description activities. The results indicate that the two groups improved significantly over time on accuracy and reaction-time scores, suggesting that the feedback type did not make a difference in the learning outcomes. The researchers explained the findings by attributing different roles for the two CF types in L2 development. Specifically, repeated exposure to recasts exposes learners to the positive evidence available in recasts and allows them to infer negative evidence within the recasts by engaging in dyadic interactions. Prompts, in turn, allow learners to draw on the repeated exposure to negative evidence within them as well as to produce modified output.

In summary, although early studies conducted in the laboratory setting (e.g., Mackey & Philp, 1998; Iwashita, 2001; Leeman, 2003) found that recasts facilitate L2 learning, the investigations that compared recasts to other feedback types either found recasts more effective than the other techniques (Long *et al.*, 1998; Mackey & Philp, 1998) or yielded no differences across the CF types (e.g., McDonough, 2007; Lyster & Izquierdo, 2009). In the classroom-based studies, on the other hand, prompts have yielded the most gains (e.g., Havranek, 1999; Lyster, 2004; Ammar & Spada, 2006; Ellis *et al.*, 2006; Yang & Lyster, 2010), with the exception of the "corrective recasts" that brought about learning

(Doughty & Varela, 1998). The effectiveness of recasts in the early laboratory studies compared to the classroom results could be explained by a number of reasons. First, the controlled nature of the laboratory may make any target feature appear more prominent to the participants even if they are asked to partake in a communicative task (Nicholas *et al.*, 2001; Spada, 1997; Lyster, 1998a). Second, unlike the classroom, the target feature is often isolated in the laboratory setting, making it more noticeable (Spada, 1997; Lyster, 1998a). And third, the researcher-participant interactions may help learners recognize that (a) the researcher's reactions to the learner's productions are a form of feedback, and (b) that this feedback is corrective in nature²⁴.

However, the fact that the recent laboratory studies have failed to differentiate the effectiveness of CF techniques suggests that the input-providing and output-pushing feedback types differ in the type of learning opportunities they afford (Lyster & Izquierdo, 2009; Lyster & Saito, 2010). This, along with the type of evidence each type provides, may also be the reason why learners benefit more from prompts than from recasts in the classroom. Thus, prompts, because they provide learners with instances of negative evidence, cue the locus of the problem, and push students to self-correct, seem to be more effective than recasts alone in leading to learning in the classroom. Recasts, in turn, provide positive evidence and opportunities to infer negative evidence, the difficulty of which may depend on the context (laboratory versus classroom), instruction in place (Lyster & Mori, 2006), and a number of individual learner differences (e.g., Mackey *et al.*, 2002; Trofimovich *et al.*, 2007; Ammar & Sato, 2010; Ammar, 2008). One thing remains clear - when two or more feedback techniques are compared, the one that makes the presence of an error explicit and elicits the correct form from the learner leads to a markedly improved learner performance than does the one that simply implies it (as recasts often do). This conclusion was first outlined by Norris and Ortega (2000) in their meta-analysis of 49 instructional studies that looked at such pedagogical choices as metalinguistic explanations, input

manipulations, and provision of different feedback types. More recently, a meta-analysis of 15 classroom-based studies (Lyster & Saito, 2010) that investigated the pedagogical effectiveness of three types of oral feedback (recasts, prompts and explicit correction) reiterated the superiority of prompts over recasts in leading to language development.

The instructional context can also help learners predict the likelihood of feedback and the extent of its explicitness. That is, since CF in communicative yet accuracy-driven classrooms is usually delivered in a more explicit manner than in content-based classrooms, where L2 is the medium of instruction and not its subject (Sheen, 2004, 2006; Loewen & Philp, 2006), the learners in the former context are more likely to overtly acknowledge and thus, respond to the teacher's correction than are their counterparts in the immersion context. Yet, even in the immersion context, learner responses to feedback may differ depending on the type of focus (meaning or form) a classroom adopts. This was found to be true in Lyster and Mori's (2006) investigation of learner reactions to feedback in two immersion contexts: the French immersion in Quebec (the second language context) and the Japanese immersion in the United States (the foreign language context). While the distribution of prompts and recasts was similar across the two settings, the French immersion learners showed a tendency to uptake and repair more of their ill-formed utterances after prompts (53%) than after recasts (38%). The reverse was found for the Japanese setting, where the learners repaired significantly less after prompts (23%) than they did after recasts (68%). This difference in the learner reaction to the CF types between the contexts was explained by the authors via their Counterbalance Hypothesis. The Hypothesis posits that while the feedback techniques that add saliency to form are more likely to be noticed and learned from in meaning-based contexts, where the focus is placed on content and meaning making, grammar-oriented settings may benefit more from the implicit feedback types, which make the emphasis on meaning in the accuracy-driven culture stand out more in the minds of learners than an explicit prompt to attend to form.

To summarize, the effectiveness of recasts seems to depend on how salient they are in the input and on the opportunities they provide learners to infer their corrective intent. Prompts, on the other hand, provide learners with ample opportunities to recognize their corrective role through cues and output modifications. What stills needs to be discovered is whether a combination of prompts and recasts provided in a classroom would result in differential learning from that of either recasts or prompts alone. This research would also be informed by the identification of certain affective variables that may predict learning as a result of the CF types alone or in combination. Because the ability to recognize the corrective information in the supplied feedback is usually considered a prerequisite to learning (Schmidt, 2001), it is important to identify whether such noticing affects L2 learning. In other words, it is necessary to study the relationship between noticing and L2 development, which is the focus of the next section.

2.5 Noticing of CF and L2 development

Although a significant number of studies have investigated the noticeability of feedback (Egi, 2007b; Kim & Han, 2007; Mackey *et al.*, 2000; Mackey *et al.*, 2002; Philp, 2003; Trofimovich *et al.*, 2007; Ammar & Sato, 2010a) and the effectiveness of CF (Ammar, 2008; Ammar & Spada, 2006; DeKeyser, 1993; Doughty & Varela, 1998; Ellis *et al.*; 2006; Lyster, 2004; Sheen, 2007; Han, 2002; Iwashita, 2003; Mackey & Philp, 1998; McDonough, 2005, 2007), they did so considering each element in isolation, without empirically examining the relationship between the noticing of CF and L2 development. Instead, the CF effectiveness research did not consider the noticeability of feedback but did draw conclusions about that noticeability without empirical evidence. The same is true of the noticeability research where based on the noticing scores conclusions about the effectiveness of CF were made, without observed proof.

To date, few studies have empirically tested the link between the noticing of feedback and L2 development (Nabei & Swain, 2002; Mackey, 2006; Ammar & Sato, 2010b; Taddarth, 2010). Nabei and Swain (2002) were among the first to conduct a case study designed to test the potential link between noticing and L2 development. Shoko, a female Japanese university-level learner of English, was the subject of the study that examined the student's language learning in relation to the three aspects of input that she noticed: (1) meaning, (2) language, and (3) feedback. Noticing was measured by way of stimulated recall sessions that were repeated six times during the study. While "attention to meaning" was operationalized as the learner's comments that indicated her "understanding and reflection upon the content of discussion", "attention to language" referred to comments that the learner made in relation to "aspects of language" (p. 51). Attention to feedback, in turn, signalled that the learner interpreted recasts as CF. L2 development was assessed via grammaticality judgment tests that were administered after the weekly 70-minute lessons. Another grammaticality judgment test composed of all the previously given tests was completed at the end of the treatment and served as a delayed post-test. Feedback in the form of a recast was provided to errors on various linguistic structures (i.e., grammatical, lexical, phonological, and incomplete sentences) during the lessons. The stimulated recall revealed that the amount of noticing and learning depended on the engagement Shoko felt with the task. That is, there were three levels of listening for this learner: (1) listening for the meaning of the message, (2) listening for message meaning and language use, and (3) no listening. Shoko seemed to mostly concern herself with the meaning of what was said, and even when she was able to comment on the language form, this was rather superficial in that the learner was not able to identify the locus of the problem. In terms of language development, on the first test, Shoko was able to answer correctly 56% of the time and her accuracy increased to 78% on the delayed post-test. Even though the learner was exposed to very few corrective episodes ($n = 25$ in 420-minutes), she was able to learn

from them when she understood that they targeted the form of the utterance, especially in the short-term. Specifically, the results of the immediate post-test demonstrated that when the corrective intent of recasts was accurately perceived, the learner's production improved significantly more (67%) than when she attributed recasts as having to do with the content of discussions (57%) or the linguistic structure (47%). While this study informs our understanding of what learners may attend to and how they learn an L2, the fact that only one learner was involved in the investigation suggests that the findings cannot be generalized.

Mackey (2006) employed a larger sample ($n = 28$) to investigate the link between the noticing of L2 form during classroom interactions and the effects of feedback. The high-intermediate participants were enrolled in a university-level intensive ESL speaking and listening classes. The treatment involved their participation in a 150-minute game show, during which they received feedback in the form of negotiation and recasts about errors on questions, plurals, and the past tense. Noticing, which was assessed by way of a questionnaire, online learning journals, and stimulated recall protocols, referred to the learners' awareness of the gap between their interlanguage forms and the target norms (made salient by a recast). Learning, in turn, was measured by way of spot-the-differences and picture description tasks, administered immediately before and after the treatment. The results revealed that the learners were able to notice CF and that there was a positive relationship between the noticeability of feedback and L2 learning. Specifically, the learners' reports of noticing were mediated by error type in that they reported more noticing for questions than the other two targets and their development on the questions target was superior (83% of those who noticed learned) to the plural forms (50% of those who noticed learned) and the past tense forms (only one out of five learners who noticed learned, 20% of the total).

Similar results were found by Ammar and Sato (2010b), who investigated the relationship between the noticing of explicit and implicit

recasts on errors with questions, the past tense, and the third person possessive determiners (PDs) among child francophone learners of English ($n = 53$). During the four-day treatment, the participants engaged in seven activities that targeted morphosyntax. Noticing was measured by way of (1) online recall, executed during the activities, and (2) stimulated recall, done one day after the intervention. For the online recall, the researcher flashed a red-colored card during CF episodes and each time the card was displayed, the participants had to write down what they were thinking at that specific moment. There were a total of 14 stops after feedback was provided with implicit recasts and 16 after explicit recasts. The stimulated recall involved the learners watching student-teacher interactions from Day 3 of the intervention and writing their thoughts on what was happening on the tape each time the tape was stopped. There were 16 stops after the implicit recasts and 17 after the explicit recasts. The development on the past tense and PDs was assessed by way of a picture description task and a computerized oral picture description, and spot-the-differences tasks were used to measure the learning of questions. The results revealed that the explicit recasts were noticed more than their implicit counterparts overall and that the explicit recasts led to more L2 knowledge gains than the implicit recasts. Noticing, however, was mediated by the target structure in that PDs and past tense recasts were noticed more than questions recasts, which translated into positive changes for the learning of the past tense and PDs.

To empirically examine whether learners' interpretations of recasts translates into L2 learning, Egi (2007b) investigated the functions (i.e., responses to content, negative evidence, positive evidence, or a combination of positive and negative evidence) L2 learners of Japanese (NNS) assigned to the recasts that they noticed in their interactions with native speakers (NS) of the language. The NNS-NS dyads held two conversational sessions to complete a picture description task and a spot-the-difference task, during which the NS provided feedback to the NNS on his/her morphosyntactic and lexical errors.

To collect instances of noticing, the NNSs engaged in online ($n = 31$) and retrospective ($n = 18$) verbal reports held by the NSs during (immediate reports, cued by two knocks on the table) and immediately after (stimulated recall, facilitated by video clips from the treatment sessions) the interactions. During the verbal recall, the NNSs were prompted to report their thoughts (in English) “without elaboration or reasoning” (Egi, 2007b, pp. 256-7). The resulting instances of noticing were then categorized in terms of (1) the learner noticing (or not noticing) the recast, and (2) the aspect of the recast that was noticed. When the semantic aspect of the recast was noticed, it was classified as “response to content”. However, the reports of grammatical form noticing were categorized as either negative (i.e., comments that the NNS recognized that an error had been made and/or that he/she received a recast) or positive evidence (i.e., comments indicating that the NNS noticed the targetlike model contained in the recast). And finally, when the learner attended to both types of linguistic evidence (i.e., when the NNS recognized that an error had occurred *and* was corrected by a recast), a “negative + positive evidence” classification was used. The results revealed that of the 307 recalled recasts, 177 (57.65%) received one of the interpretations detailed above (response to content: 16.95%; negative evidence: 35.03%; positive evidence: 19.77%; negative + positive evidence: 28.25%). In terms of the relationship between the NNSs interpretations of recasts and their L2 development, the results suggest that learners’ performance depends on how they interpret recasts. Overall, accuracy scores improved when the learners recognized recasts as negative and/or positive evidence than when they interpreted them as responses to content. Furthermore, the learners who recognized recasts as positive evidence or “negative + positive” evidence showed significantly greater learning outcomes in the short-term than did those who interpreted them as responses to content. What is more, the recognition of recasts as negative evidence alone did not result in significantly greater learning. As for the impact of noticing in relation to the target linguistic forms, the findings show that lexical items were learned more readily than their

morphosyntactic counterparts when the learners noticed positive evidence in recasts. However, the noticing of positive and/ or negative evidence in recasts did not result in higher gains for the morphosyntactic items.

Finally, Taddarth (2010) looked at the relationship between the noticeability of CF (delivered by way of implicit and explicit recasts) and learner uptake. Two grade 6 classes ($n = 53$) participated in six oral activities designed to elicit the use of questions and PDs (three activities per target). Feedback was supplied in response to errors with the target features. Learning was measured by way of the pre-test post-test design, where the learners participated in dyadic interactions with the researcher on three tasks, two of which targeted the development of questions (spot-the-differences task and a computerized picture description task) and one assessed the learning gains for PDs (picture description task). The results indicated that explicit recasts were more effective than implicit recasts in leading to uptake and language gains for both targets. The amount of uptake, however, appeared to depend on the target feature in that errors with questions were repaired more than those with PDs. A positive relationship between uptake and the learning of questions was also reported, but the researcher cautioned against interpreting no uptake as evidence of not learning.

To sum up, few studies have directly examined the relationship between the noticing of CF and L2 development. Those that have focused on the mediating effect of recasts on L2 development, without comparing this CF type to others (except for Mackey, 2006). On the whole, these studies suggest that when the corrective intent of recasts is accurately perceived, learner performance improves significantly (e.g., Nabei & Swain, 2002; Egi, 2007b; Taddarth, 2010). In terms of the noticing and learning relationship, while there is evidence that noticing is dependent on the target feature, it is not clear what error types benefit from such noticing the most. That is, while Mackey (2006) and Taddarth (2010) found the noticeability of feedback to questions translated into learning gains the most, Ammar and Sato (2010b) found PDs to be affected

more by the CF that was noticed, followed by gains with the past tense and questions. While intriguing, drawing final conclusions from this body of research is both imprudent and difficult. It is imprudent because this type of research is still embryonic and as such, warrants additional studies to capture the full extent of what appears to be a complex relationship between noticing and learning. It is also difficult to draw conclusions about the link between noticing and learning from the studies that examined noticing as a function of learner recall (Egi, 2007b; Mackey, 2006; Nabei & Swain, 2002; Ammar & Sato, 2010b) and/ or uptake (Mackey, 2006; Taddarth, 2010) alone. Hence, what is needed is an investigation that would systematically compare the noticeability of several CF types across different targets, using various tools to measure noticing. Furthermore, it would be interesting to determine whether this noticing is mediated by the differences in the learners' beliefs about corrective feedback. The rationale behind the choice of this individual difference is presented next.

2.6 Learner beliefs

While the exploration of how different learner traits affect learning outcomes among L2 students has resulted in an identification and arguments for the importance of a wide array of individual differences (e.g., intelligence, aptitude, motivation, anxiety, risk taking, cognitive style, etc.; for a review, see Sawyer & Ranta, 2001), investigations into the impact of individual differences on the effectiveness of corrective feedback have been scarce (Russell & Spada, 2006). In fact, to date, research into the effectiveness of feedback as a function of individual differences has produced studies that only considered differences in learners' age (Mackey & Oliver, 2002), proficiency (Philp, 2003; Ammar & Spada, 2006), as well as attention, memory, and language aptitude (Mackey *et al.*, 2002; Trofimovich *et al.*, 2007; Ammar & Sato, 2010). Together, they have revealed that age, proficiency, and a number of cognitive factors affect learners'

ability to notice, and, as a result, profit from feedback, and more specifically, from recasts. In terms of age, children between 8 to 12 years old are able to respond to feedback on questions in dyadic interactions with adults and to benefit from it sooner (leading to more immediate changes in the interlanguage and restructuring) than their adult counterparts (Mackey & Oliver, 2002). As for proficiency, high proficiency learners tend to notice and benefit from recasts more readily than the low-proficiency ones (Philp, 2003; Ammar & Spada, 2006). And finally, the research into the role of cognitive factors in the noticing of feedback has demonstrated that learners with large working and phonological memory (Mackey *et al.*, 2002) as well as a broad attention span (Ammar & Sato, 2010a) are more likely to notice recasts than their counterparts. What has yet to be considered is the effect of affective variables on learners' ability to notice feedback. To date, only two affective variables – anxiety and learner attitudes - have been investigated in relation to CF effectiveness, but not its noticeability (Sheen, 2008, 2011). These two variables were examined along with analytical ability (a cognitive factor) in relation to both oral and written feedback. The results showed that while all three factors mediated the effectiveness of different types of CF, their impact depended on the mode that the feedback was delivered in and on the CF type. Regarding the affective factors, anxiety proved to be a variable in oral feedback but did not play a role in written feedback. Learner attitudes towards CF, in turn, figured much more in the case of written feedback than oral feedback. These attitudes measured the degree to which the participants were willing to accept feedback and whether they saw it as helpful and important; their perceptions towards grammatical accuracy were only investigated. In terms of CF type, learners with lower anxiety outperformed those with higher anxiety in the case of oral metalinguistic CF (operationalized as teacher's provision of the correct form following the error, together with metalinguistic explanation, Sheen, 2011, p. 62), but anxiety did not influence the effectiveness of oral recasts, defined as “a teacher's reformulations of a student's erroneous utterance, without changing

the meaning of the student's original utterance in the context of a communicative activity" (Sheen, 2011, p. 62). Similarly, learner attitudes mediated gain scores of the learners in the oral metalinguistic group, but not of those in the oral recast group. These findings, then, suggest that affective learner variables influence the effectiveness of CF in the classroom, but it is still not clear whether they impact the noticeability of oral feedback.

While beliefs are clearly different from such cognitive individual differences as language aptitude and attention span, they have been argued to influence language learning in terms of learner achievement, motivation, aptitude as well as selection and use of learning strategies (e.g., Breen, 2001; Horwitz, 1985; 1999; Fox, 1993; Dörnyei, 2005). In fact, beliefs have been said to be a major element of the "mini theories" that language learners form about L2 learning (Hosenfeld, 1978), which shape the way learners go about the task of learning. As such, beliefs may affect the process and product of language learning, which underscores the importance of looking at them in relation to the noticeability of feedback. Another reason for such an investigation is that the effects that beliefs appear to have on the language process are arguments derived from descriptive studies and have yet to be empirically tested.

The fact that beliefs are dynamic and situated, not enduring and trait-like, makes it difficult to label them as an individual difference (ID), claims Dörnyei (2005), for "ID constructs refer to dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree" (p. 4). In fact, the task to define "beliefs" has proven to be more complex than it would have appeared at first for the literature on the subject has produced a variety of definitions to account for the concept. The notion of beliefs, for example, is divided into four facets in the French literature: (1) representation (*la représentation*), (2) attitude (*l'attitude*), (3) perception (*la perception*), and (4) belief (*la croyance*). "Representation", according to Biron (1991), is associated with the idea of the interpretation or reorganization of a certain reality in accordance with personal beliefs (Leif,

1987). “Attitude”, in turn, is the result of feelings, desires, and emotions one may possess with regard to an object or a situation; it (“attitude”) influences individual perceptions and behaviour (Thurstone & Chave, 1980).

Dörnyei (2005) went on to differentiate between the concept of “beliefs” and “attitudes” on the premise that the latter is “deeply embedded and can be rooted back in our past” whereas beliefs “have a stronger factual support” (p. 214) and can change. Such change, in fact, has been documented in a 15-week study by Kern (1995), who reported a substantial modification (35% to 59%) in beliefs among first-year French L2 university students in the U.S. Interestingly, the change was especially apparent in response to the statement that dealt with the effect of error correction on language learning. Specifically, at the end of 15 weeks, 37% of participants were in greater and 15% in lesser agreement with “if you are allowed to make mistakes in the beginning, it will be hard to get rid of them later on”. Wenden (1999) also equated beliefs to attitudes when she drew a parallel between *metacognitive knowledge* – the portion of a learner’s knowledge base that consists of what he/she knows about learning - and learner beliefs, arguing that the latter were distinct from the former in that they reflected the values one adhered to and as such, were more persistent.

“Perception”, in the words of Gagné (1979), represents “the process by which any person or group of people becomes aware of the objects which are presented to them or the events which occur” (p. 25)²⁵. In fact, any human perception is influenced by beliefs that impact the ways in which events are understood and acted upon (Nisbett & Ross, 1980). Cognitive psychology defines “beliefs” as representations of a reality that guide thought and behaviour (Abselson, 1979; Anderson, 1985). Moreover, beliefs contain a cognitive component, an emotional component, and a behavioural component – that is, they influence what one knows, feels, and does (Rokeach, 1968). For the purposes of this study, the definition of “beliefs” offered by Barturkmen, Loewen, and Ellis (2004) will be used to operationalize the concept. They define beliefs as “statements teachers [and students] make about their ideas,

thoughts, and knowledge that are expressed as evaluations of what ‘should be done’, ‘should be the case’, and ‘is preferable’” (p. 244).

The multitude of definitions and perspectives used to operationalize beliefs speaks to the complexity of the construct and the challenges associated with researching it. Research on learner beliefs about language learning in SLA has been mostly based on the cognitivist assumption that learners’ attitudes and behaviours are shaped by mental representations about the nature of language and language learning (Benson & Lor, 1999; Barcelos, 2003; Wenden, 1998, 1999). In this view, beliefs are a subset of the metacognitive knowledge in that they are stable but may differ from one learner to another because they are value-related and tenaciously held (Wenden, 1999). If, for example, a learner believes that the best way to learn a language is through the study of rules and rote memorization of language parts, he/she will likely embrace vocabulary and grammar learning as well as be open to systematically analyze, memorize, and practice the target language. Should the learner believe, however, that learning a language is best achieved through natural exposure to it, he/she will hold positive attitudes towards communication with the speakers of the language, adopting a range of social and communication strategies (Benson & Lor, 1999). These assumptions have yet to be empirically tested.

Because the premise behind the study of learner beliefs in general is to identify those mental representations that positively affect the study of language as a whole, numerous studies have been undertaken to describe and classify beliefs held by learners and teachers across target languages, different cultures, instructional settings, and age groups (e.g., Horwitz, 1999; Schulz, 1996, 2001; Peacock, 2001; Chavez, 2007). Other studies have considered the effect beliefs may have on motivation (Cotterall, 1999), self-regulation (Wenden, 1999), and strategy use (Yang, 1999). The more recent investigations, in turn, have challenged the assumption of beliefs as a stable construct, suggesting that beliefs can change over time and under different contexts (Tanaka & Ellis, 2003; Barcelos, 2003; Amuzie & Winke, 2009). What these investigations have

not systematically addressed, however, is the beliefs learners hold about corrective feedback and its role in the study of language (but see Sheen, 2008, 2011). There have also not been empirical investigations into possible effects these beliefs may have on learners' in-class behaviour as it relates to CF and learning outcomes because of it.

2.6.1 Research into learner beliefs

Learner beliefs were first introduced into the L2 literature by Horwitz²⁶ (1985, 1987, 1988), who investigated the relationship between student attitudes and motivation and second language outcomes. Using the Beliefs About Language Learning Inventory (BALLI), which consists of 34 statements that assess student beliefs in five areas ((1) the difficulty of language learning, (2) foreign language aptitude, (3) the nature of language learning, (4) language learning and communication strategies, and (5) motivation and expectations), Horwitz (1987, 1988) confirmed that learners of various linguistic and cultural backgrounds share certain beliefs about learning. This approach to investigating learner beliefs has been dubbed “normative approach” as it presupposes that beliefs are general and fixed, and thus can be studied through the use of such Likert-style questionnaires as BALLI. While this assumption arguably negates the dynamic nature of beliefs that is often dictated by context, the use of a questionnaire allows for an initial “framing” of the concept among a large number of respondents, where, if needed, the statements can be adjusted to speak to a particular situation. Despite the fact that the questionnaire statements are predetermined by the researcher and as such cannot presume to represent all the beliefs that the respondents might hold about language learning in general or its particular aspect, they aid in outlining the concept(s) of interest and identify common views about it on a large scale, which can then be applied to broader SLA contexts. Such generalizability, however, is limited when beliefs are studied using metacognitive, contextual, and indirect approaches because

they involve “small-scale, in-depth, descriptive and interpretative analyses” (Bernat & Gvozdenko, 2005, p. 7) of interviews, journal or diary entries, metaphors, and observations. In metacognitive approach, for example, learner beliefs are seen as “theories in action” (Wenden, 1986, 1987, 1999, 2001; Benson & Lor, 1998) and learners are prompted to observe their cognitive processes and to articulate their beliefs by way of semi-structured interviews and/ or self-reports. One of the benefits of this approach is that “learners become aware of their learning styles, strategies and beliefs that could lead them to improve their own learning processes” (Bernat & Gvozdenko, 2005, p. 6) in a variety of contexts. The contextual approach, in turn, rejects the idea that beliefs are trait-like, claiming that they vary according to context and as such, need to be looked at via a variety of data types and means of data analyses (White, 1999; Barcelos, 2003; Hosenfeld, 2003). Finally, the indirect approach views learner beliefs as “covert” and uses metaphor analysis to identify them (Ellis, 2002; Kramsch, 2003). Thus, the choice of research methodology largely depends on the purpose of investigation and the questions it is designed to answer. To date, much of the research on learner beliefs has looked at the types (e.g., Wenden, 1999; Mori, 1999; Benson & Lor, 1999; Tanaka, 2004; Ellis, 2008; Amuzie & Winke, 2009) and sources of learner beliefs, with only a handful of studies considering the link between beliefs and learning (e.g., Little & Singleton, 1990; Horwitz, 1999; Schulz, 1996, 2001; Sheen, 2008, 2011).

2.6.2 Types of beliefs

In terms of the types of beliefs, in addition to the five major areas of learner beliefs uncovered by the Horwitz’ program of research, Wenden (1999), having studied beliefs of advanced-proficiency adult learners, came up with three general categories: (1) use of the language (e.g., the best way to learn a language), (2) learning about the language (e.g., importance of learning grammar), and (3) importance of personal factors (e.g., self-efficacy, aptitude for learning). These studies uncovered a common set of learner beliefs, one of

which revolved around the importance of grammar study, a finding that was later echoed in Schulz's (2001) study, where the Colombian ($n = 607$) and American ($n = 824$) participants saw the study of grammar and error correction as very beneficial to language learning.

In an attempt to move away from the simple listing of beliefs, Mori (1999) linked learner beliefs to the study of epistemological beliefs – beliefs about the nature of knowledge and learning. She examined the beliefs about learning in general and language learning in particular among 187 Japanese L2 university learners in the United States. The resulting factor analyses produced different belief structures. The beliefs about learning in general centered around five distinct dimensions of (1) the structure of knowledge, (2) the attainability of knowledge, (3) the source of knowledge, (4) the controllability of the ability to acquire knowledge, and (5) the speed of knowledge acquisition. As for the language learning beliefs, three main dimensions, which explained three quarters of the variance, were: (1) perception of the difficulty of language learning, (2) the effectiveness of strategies for language learning, and (3) the source of linguistic knowledge.

This suggests that learners hold different beliefs about what language is and about the nature of language learning. In fact, Benson and Lor (1999) differentiated between two levels of representation in learners' thinking: "conception" and "belief". They defined conception as "what the learner thinks the objects and processes of learning are", and beliefs as "what the learner holds to be true about these objects and processes" (Benson & Lor, 1999, p. 464). In this way, beliefs are connected to the "Student Approaches to Learning" (SAL) paradigm (Watkins, 1996, cited in Benson & Lor, 1999), which differentiates itself from the Information Processing theory that sees certain ideas about learning as universally applicable regardless of the content and context in which learning takes place. SAL, however, starts off with the perspective of the learner and accords content and context much importance. Learning is seen as a "qualitative change in a person's way of seeing, experiencing, understanding,

conceptualizing something in the real world” (Marton & Ramsden, 1988, p. 271). Hence, based on their study of Chinese undergraduate students in Hong Kong designed to evaluate their responses to a program designed to encourage independent learning, Benson and Lor (1999) suggest that conception and beliefs relate and respond to context in that beliefs manifest themselves in the approaches to learning, which can be of quantitative or qualitative nature. These, of course, do not need to be exclusively of one type or another; instead, they often interact. Based on the Benson and Lor (1999) study, Ellis (2008) produced a table that corresponds qualitative and quantitative conceptions to the beliefs learners may hold (p. 9; see Table 4).

Table 4

Types of learner beliefs (Ellis, 2008, p. 9)

| Conception | Nature of language beliefs | Nature of language learning beliefs |
|--------------------------|---|---|
| Quantitative/analytic | Learning an L2 is mostly a matter of learning grammar rules. In order to speak an L2 well, it is important to learn vocabulary. | To understand the L2 it must be translated into my L1. Memorization is a good way for me to learn an L2 |
| Qualitative/experiential | Learning an L2 involves learning to listen and speak in the language. To learn a language you have to pay attention to the way it is used. | It is okay to guess if you do not know a word. If I heard a foreigner of my age speaking the L2 I would go up to that person to practise speaking. |

A recent new focus in the study of beliefs has also considered learner views on their language ability and the role context plays in their learning success. Tanaka (2004), for example, examined the change in beliefs among

Japanese learners of English ($n = 132$) when they went to New Zealand on a study abroad program. The participants were asked to complete a beliefs' questionnaire, which contained 27 Likert-scale items and measured beliefs about analytical and experimental learning as well as affective factors, examples of which are detailed in Table 5. In addition to the questionnaire, some learners were interviewed at the end of this 12-week study, and five were asked to keep a journal about their English learning experiences throughout the study. The results revealed that while the questionnaire responses did not yield significant change in beliefs, the interviews and journals showed several transformations. For example, upon arrival in New Zealand, the majority of the participants felt dissatisfaction with their English ability and blamed it on the English language education they received in Japan. However, by the end of the study, their views shifted from criticizing the Japanese educational system to the realization that language learning is a long and difficult process, and that they, as learners, needed to engage in the learning process.

Table 5

Examples of the beliefs questionnaire items in Tanaka (2004)

| Item | Examples |
|-----------------------|---|
| Analytic learning | <i>In order to speak English well, it is important for me to learn grammar.</i> <i>I would like my English teacher to correct all my mistakes.</i> |
| Experimental learning | <i>I can learn well by speaking with others in English.</i> <i>I can learn well by listening to the radio or watching TV.</i> |
| Affective factors | <i>I am satisfied with my progress so far.</i> <i>It is possible for me not to get nervous when speaking English.</i> |

2.6.3 Sources of beliefs

Another avenue that the research on learner beliefs has taken was to investigate sources of the reported beliefs. Two major sources of learner beliefs

have been identified in the literature: past experiences and the culture of origin. Little and Singleton (1990) reported on a study they completed earlier (Little, Singleton, & Silviu, 1984), where they surveyed undergraduate and graduate students of foreign languages in Ireland. The results showed that the past instructional experiences affected the beliefs learners held about language learning. This was evident in the type of activities they wanted to engage in when in the classroom. That is, they felt that oral repetition and writing activities were more beneficial to language learning than those that focused on listening and reading. The authors claimed that “past experience, both of education in general and language learning in particular, played a major role in shaping attitudes to language learning” (Little & Singleton, 1990, p. 14).

Culture has also been suggested to play a role in the type of beliefs learners bring to the task of language learning (Alexander & Dochy, 1995; Prudie, Hattie, & Douglas, 1996; Tumposky, 1991; Truitt, 1995). For example, Prudie *et al.* (1996) found that Australian and Japanese learners differed in their perceptions of what constituted learning. This claim, however, has still to be substantiated as a number of studies (Tumposky, 1991; Horwitz, 1999; Schulz, 2001) have failed to establish a clear link between culture and learner beliefs. Tumposky (1991), for instance, suggested that culture played a secondary role in the beliefs of Soviet and American students and that previous experience and learning style were likely to affect beliefs much more than the cultural differences (p. 62). Similarly, in her comprehensive review of cross-cultural belief literature, Horwitz (1999) concluded that there was not enough evidence to show that

beliefs about language learning vary by cultural group. Rather, the results point to the possibility that within-group differences, whether related to individual characteristics or differences in instructional practices, likely account for as much variation as the cultural differences (p. 575).

More recently, in her investigation of teacher and learner attitudes toward the role of explicit grammar study and corrective feedback in foreign language (FL) learning, Schulz (2001) detected a few cultural differences between the Colombian and American learners in that the students in the former context expected teachers to provide slightly more feedback on form (97%) than those in the latter setting (90%). The real difference, however, had to do with whether the respondent was a teacher or a learner; the teachers, regardless of the context, did not seem to agree with their students on the benefits of grammar study and error correction. Specifically, the teachers appeared unaware of the value their students placed on receiving feedback to error in the classroom and of the extent to which the students relied on grammar rules during language production.

Several studies in psychology have suggested that personality traits are strongly related to beliefs. In fact, in Alexander and Dochy's (1994) study the respondents ($n = 54$) felt that personality was the key factor in shaping beliefs and was directly responsible for their willingness to question and reflect on their beliefs. The researchers recruited adult participants who were asked to share (1) their personal theories of knowledge and beliefs, (2) factors that they felt shaped these beliefs, and (3) the stability they perceived these beliefs to have. The analysis of the personal theories identified 101 beliefs, which were classified into five categories: (1) information/knowledge, (2) education/experience, (3) personality, (4) nature of beliefs, and (5) other. One in five responses (21%) fell under the "personality" category, suggesting that the participants saw it as an important variable in the construction of beliefs and the one that could determine whether or not beliefs could be altered. The stability of beliefs carries an added importance in the study of the effects of personality on language learning. There is some evidence that Conscientiousness and Extraversion, two of the five dimensions in the "Big Five" personality paradigm²⁷, correlate with academic achievement. While Conscientiousness, which subsumes a hard-working, persevering, and self-disciplined learner, has

produced positive associations with learning, Extraversion, which is associated with highly sociable, gregarious, active, passionate, and talkative students, has resulted in a negative relationship between personality and learning “due to the introverts’ greater ability to consolidate learning, lower distractibility, and better study habits” (Dörnyei, 2005, p. 21). Even when a relationship between personality and learning is reported, the maximum variance in academic performance that personality can account for is no more than 15% (Dörnyei, 2005). Hence, while research on learner beliefs has accounted for a limited association between personality and learning, no studies that investigated the relationship between past experiences and/ or cultural differences in relation to learning outcomes have been undertaken thus far.

2.6.4 Beliefs and language learning

Studies that have investigated the relationship between beliefs and learning are few in number (Mori, 1999; Tanaka, 2004; Zhong, 2008; Ellis, 2008; Sheen, 2008, 2011), and their findings do not clearly indicate that beliefs directly affect what is learned. What they do show, however, is that the amount of learning is largely dependent on the actions learners take to improve their knowledge of the target language and not solely on what they believe about language learning (Mori, 1999; Tanaka, 2004; Zhong, 2008; Ellis, 2008). The effectiveness of these actions may vary in line with the situational, cultural, and personal constraints learners experience at a given point in time. As such, the degree to which beliefs affect learning is mediated by a learner’s ability and readiness to act on his/her beliefs.

Zhong’s (2008) case study, described in Ellis (2008), of a Chinese migrant ESL learner, Lin, who lived in New Zealand for a period of ten weeks, is an example of a language learner who recognized and acted on her beliefs about language learning. The study aimed to investigate the developments in learner beliefs and the relationship between beliefs and learning. To fulfill the first goal, two interviews (one at the beginning and the other, at the end of the

study period) and three classroom observations followed by stimulated recall sessions, during which the learner was asked to comment on selected episodes taken from the lessons, were carried out. To determine changes in proficiency, the learner took the Oxford Quick Placement Test as well as the Nation's vocabulary level tests and was asked to record a narrative at the beginning and again, at the end of the study. In terms of changes in beliefs, Lin seemed to become more secure in her ability to learn English and to manage this learning on her own (i.e., beliefs about self-efficacy). The learner chose to keep a vocabulary book, sit next to non-Chinese students in class, communicate in English outside of class, and to constantly monitor her own progress, which assured an increase in her vocabulary knowledge and communicative proficiency. However, her decision to accord accuracy less importance over time resulted in a decrease in her ability to produce an error-free and complexity-rich oral narrative at the end of the investigation.

Another example of a strong link between beliefs and language learning comes from Abraham and Vann's (1987) study of two learners, Gerardo and Pedro. Both learners believed in the importance of language practice in and outside the classroom as well the need for error correction. Unlike Pedro, however, Gerardo believed in the importance of grammar knowledge and the need to get to the bottom of what was being communicated. In the end, Gerardo's TOEFL score was much higher than that of Pedro's (523 and 473, respectively), but Pedro's total on the test of spoken English superseded Gerardo's result. This suggests that different views about language learning and learners' engagement in the process may affect the learning outcomes. Mori's (1999) study, detailed earlier, also found that learner beliefs about language learning were largely task-specific and depended on the perception of one's own learning ability. In other words, those learners who saw language learning as attainable and dependent on one's effort were more likely to display higher levels of achievement than those who did not.

On the other hand, if beliefs influence the actions learners take to improve their language learning outcomes, then they cannot be ignored by teachers. In fact, beliefs have been shown to shape what both teachers and learners do in the classroom. While language teachers' perceptions, principles, and assumptions about general and specific aspects of teaching guide their in-class behaviour (e.g., Almarza, 1996; Johnson, 1992, 1994; Woods, 1996; M. Borg, 1998; Sato & Kleinsasser, 1999; Basturkmen *et al.*, 2004), learners' beliefs affect the kind of language learning they achieve and in what amounts (e.g., Breen, 2001; Horwitz, 1985; 1999; Fox, 1993; Dörnyei, 2005; Tanaka, 2004; Mori, 1999; Ellis, 2008). As such, any disagreement between the students' and the teacher's belief systems about any aspect of instructional practice may result in little learning, affecting the learner's motivation to learn the language and to trust his/her instructor's professional expertise (Horwitz, 1990; Schulz, 1996; Ellis, 2008). From the teacher's perspective, misunderstandings about beliefs could lead to frustration, which could result in misguided methodology. This factor is especially vital when considering corrective feedback since opinions among researchers, teachers, and students about its role in language instruction often diverge.

Despite general agreement about the importance of corrective feedback in promoting L2 grammatical awareness (Lightbown, 1998; Doughty & Williams, 1998; Lyster, Lightbown, & Spada, 1999; Russell & Spada, 2006; Mackey & Goo, 2007; Lyster & Saito, 2010), some second language acquisition researchers see little value in feedback, claiming that it can do more harm than good and as such, should be avoided (Hammond, 1988; Krashen, 1981; 1994; Terrell, 1977; Truscott, 1999). The harm of corrective feedback, in their view, is that the anxiety students may feel during a correction is likely to raise the "affective filter", which, in turn, may slow down or block their language learning in general (Krashen, 1981). To quote Truscott (1999), "there is a serious danger that correction will produce embarrassment, anger, inhibition, feelings of inferiority, and a negative attitude toward the class (and

possibly toward the language itself)” (p. 441). Furthermore, they maintain that even if feedback is provided, nothing can guarantee that learners will notice, understand, and adopt it. They also see feedback as a hindrance to smooth message transmission and to the communicative flow. Krashen (1981), in fact, maintains that in order to sustain the learner’s focus on the message, errors should not be pointed out at the moment when they occur but be treated in a separate lesson or as part of homework. Regarding the disruption of the communicative flow, Truscott (1999) alleges that:

Correction, by its nature, interrupts classroom activities, disturbing the ongoing communication process. It diverts the teacher’s attention from the essential tasks involved in managing a communicative activity. It moves students’ attention away from the task of communicating. It can discourage them from freely expressing themselves, or from using the kinds of forms that might lead to correction (p. 442).

Teacher beliefs about how languages are learned are important to consider since they determine their in-class behavior, which, in turn, affects what is studied and how (Johnson, 1992; 1994; Borg, 1998; Sato & Kleinsasser, 1999; Basturkmen *et al.*, 2004; Fang, 1996). The positive link between teacher beliefs and instructional practices has successfully been established by a number of studies, whose investigative goals spanned from language teachers’ general beliefs about second language acquisition to their beliefs about grammar teaching as well as understanding of the Communicative Language Teaching (CLT). In her investigation of the relationship between ESL teachers’ theoretical beliefs about L2 learning and their in-class practices during literacy instruction with non-native speakers of English, Johnson (1992) found that the teachers’ choice of methodological approach as well as the type of instruction they implemented consistently reflected their theoretical beliefs. Similarly, in his attempt to learn about how teachers’ perceptions of their Knowledge About Grammar (KAG) affected their instructional decisions, Borg (1998) found that the extent to which teachers teach grammar, their willingness to engage in

spontaneous grammar work, the extent to which they promote class discussion about grammar, the way they react when their explanations are questioned, and the nature of the grammatical information they provide to students largely depends on the teachers' confidence level in their KAG. That is, teachers who are more confident in their KAG, exhibit more ease in dealing with grammar issues raised by learners in class than those who are less confident. Finally, Sato and Kleinsasser (1999), in their study of ten Japanese second language in-service teachers in Australia, tackled the little-researched issue of what second language teachers understand by CLT and how they implement it in the classroom. The results suggest that the teachers' in-class practices were not rooted in the literature on CLT they had read or the education they had received about CLT, but in their evolving personal interpretations of and experiences with the approach. That is to say, "the participants relied on themselves, and their descriptions and actions reflected their understandings not only about CLT but also about general L2 teaching as well" (Sato & Kleinsasser, 1999, p. 513).

A few recent studies, however, have shed light on a possible mismatch between teacher beliefs and their instructional practices. Basturkmen *et al.* (2004), for example, looked at the relationship between teachers' beliefs and practices regarding focus on form and revealed a weak link between the two. The inconsistency in the relationship lay in the teachers' stated beliefs regarding the appropriate time for the focus on form to occur as well as in the preferred corrective feedback technique. Similarly, in her research of novice ESL teachers' beliefs about corrective feedback and their instructional practices, Kartchava (2006) found that although the teachers stated strong beliefs in the importance of feedback, they corrected fewer errors than they had indicated. However, when they chose to treat the errors, they did so using the same corrective techniques (namely, recasts) they said they would. These differences between the teacher beliefs and their in-class practices play a critical role in that they may lead not only to incongruities in teaching, but also to dissatisfaction among students (Fox, 1993; Schulz, 2001; Ellis, 2008).

One possible reason why students may be unhappy about their language classes is “the lack of consistent and unambiguous feedback” (Allen *et al.*, 1990, p. 67). Although some teachers prefer either to provide correction in the form of recasts or not to correct at all for the fear of a breakdown in communication or negative reactions in the learners, research on language anxiety shows that despite apprehension learners may feel about making errors, they are generally not afraid of feedback in the classroom (Horwitz, Horwitz, & Cope, 1986); instead, they welcome it (Schulz, 1996). What’s more, studies conducted with second (e.g., Cathcart & Olsen, 1976; Chenoweth, Day, Chun, & Luppescu, 1983) and foreign (e.g., Schulz, 1996; 2001) language learners show that, as a whole, students tend to appreciate the usefulness of corrective feedback in language learning. In her exploratory study about teacher and learner attitudes toward the role of explicit grammar study and corrective feedback in foreign language (FL) learning, Schulz (1996) compared the responses of 824 American FL students and 92 teachers. Each group received a questionnaire made of 13 items, where seven questions dealt with beliefs about grammar study and the remaining six were on perceptions regarding corrective feedback. The results indicate that student and teacher opinions about feedback differed. Although the teachers and the learners converged on the importance of feedback to written errors (citing agreement of 93% and 97%, respectively), their opinions about feedback to speaking varied drastically. That is, while the students overwhelmingly welcomed explicit feedback to their spoken errors (90%), the vast majority of the teachers (70%) did not believe in its importance.

Interestingly, a similar pattern of results emerged in a follow-up study when Schulz (2001) administered the same questionnaire to 607 Colombian FL students and 122 of their teachers. Specifically, these students, like their American counterparts, believed strongly in the importance of feedback to speaking (97%), but their teachers, once again, failed to share their opinion, citing a 61% disagreement. Since the students across cultures believe in the positive role corrective feedback plays in language acquisition, Schulz (1996)

warns that the “students whose instructional expectations are not met may consciously or subconsciously question the credibility of the teacher and/or the instructional approach in cases where corrective feedback is not provided” (p. 349), which may further lead to a decrease in learner motivation and the amount of learning achieved.

Hence, given that language learners see CF as helpful in L2/FL acquisition, an investigation into their beliefs on the subject is warranted. The importance of such inquiry is precipitated further by the fact that, to date, few studies have looked at learner beliefs about feedback. Those that did, treated such beliefs as a secondary point of interest, allocating a limited number of questions on the topic as a result. Schulz’s questionnaire, for example, contained merely seven questions on the role of corrective feedback in language learning, of which four dealt with the role of feedback in general, two with students’ attitudes toward feedback on written errors, and only one question considered learners’ attitudes toward correction of errors in speaking. Clearly, this is not a sufficient number to capture the various aspects of the topic and beliefs about it. More recently, Loewen, Li, Fei, Thompson, Nakatsukasa, Ahn and Chen (2009) used a 37 Likert-scale and four open-ended prompts questionnaire to investigate the beliefs of 754 L2/FL learners about the role of grammar instruction and error correction. Their questionnaire primarily focused on the role, efficacy, and importance of grammar, allotting error correction lesser weight. In fact, the results showed that learners did not see grammar instruction and error correction as related constructs, viewing each independently. In the end, while grammar was generally valued by the majority, error correction, for the most part, was viewed negatively. Yet despite the large sample size, it is premature to claim that the five items on error correction²⁸, which focused on both oral and written language, begin to tell the story of what learners believe about corrective feedback. This is underscored further by the fact that 13 of the 37 belief-related items were drawn from Schulz’s (1996; 2001) work, and learners of more than 14 languages were involved. Moreover,

these studies looked at beliefs in isolation without attempting to link them to learning outcomes.

Summary

This literature review reiterates that for CF to be effective in language learning, its didactic intent needs to be recognized. That is, learners need to notice that the teacher's correction is targeting the form of an ill-formed utterance and not its meaning. This ability to notice, however, has been shown to be quite limited, especially when feedback is in the form of a recast. Because recasts contain two types of linguistic evidence, learners often find it difficult to identify recasts as corrective moves. When, however, the corrective (vs. communicative) intent behind a recast is made salient, learners are able to recognize it as CF and to, consequently, learn from it. Still, the noticeability of recasts is contingent on a number of factors and little has been done to compare the noticeability of different CF techniques. The only study (Ammar, 2008) into the noticeability of recasts versus prompts demonstrated that learners are able to notice feedback on form more readily with prompts than with recasts. Albeit intriguing, the findings of this investigation need to be corroborated by additional research, which should also question the mediating factors on such noticing. Hence, it seems warranted to investigate the relationship between learners' in-class noticing of CF and their L2 learning as a result of it, as well as to determine if the noticeability and benefits of feedback are dependent on the learners' affective differences, such as beliefs. Although learner beliefs have been shown to underlie learner behavior and learning outcomes, no studies have looked into learner beliefs about CF independently from other language-related constructs. In fact, Loewen *et al.* (2009) showed that learners view grammar instruction and error correction as distinct categories and called for future research to consider this differentiation. With this in mind, the present study was carried out to address the following research questions:

1. Does provision of CF promote noticing and learning of L2 norms in the L2 classroom?
2. Is there a relationship between learners' reports of noticing L2 norms and their subsequent L2 learning?
3. Do learner beliefs about CF mediate their noticing and learning of L2 norms?

In other words, the premise here is to measure language learners' ability to notice and learn from the feedback on errors provided in the language classroom (Q1), to find out if this noticing leads to language learning (Q2), and to ascertain whether learner beliefs about CF mediate noticing of feedback and L2 development (Q3).

Chapter 3: Methodology

The purpose of this chapter is to outline the methodology adopted to investigate the learners' noticing of CF supplied in response to errors with the English past tense and questions in the past and the learning that results, as well as to determine whether learner beliefs about CF guide their noticing and learning. Specifically, this chapter details the research context, participants, feedback conditions, target features, the instructional intervention, data collection tools as well as the types of data analysis undertaken.

3.1 Research context

The present study was carried out in nine English language classes at a French-medium CEGEP, a post-secondary educational institution, in Montreal. The choice of setting was influenced by three factors: age of participants, opportunity to conduct research in the classroom context, and the particularity of the English language instruction in the predominantly French Quebec. SLA research has shown that the effectiveness of feedback is influenced by the age of learners (Lyster & Saito, 2010) in that CF is more beneficial for younger (Mackey & Oliver, 2002; Oliver, 2000) than older (Mackey & Philp, 1998) learners because children appear to be more sensitive to feedback for "it engages implicit learning mechanisms that are more characteristic of younger than older learners" (Lyster & Saito, 2010, p. 293). A closer look at the studies on age and CF reveals that the age of children investigated ranged from 6-12 years, but the maturity of the adult participants was not always specified. It could, however, be assumed that these adults were of 20 years of age and older. Hence, there appears to be a gap in our knowledge of the impact of CF on learners between 13 and 20 years of age. In an attempt to initiate the bridging of this age gap, the present study recruited young adults aged 16 to 21 to

investigate the effects of CF on their acquisition of the past tense forms and questions in the past.

The second reason for the choice of setting stemmed from the opportunity to conduct research in intact classrooms. Although Gass, Mackey and Ross-Feldman (2005) found no differences in the amount of interaction that occurred in classroom versus laboratory contexts, studies conducted in the laboratory setting (e.g., Carroll & Swain, 1993; Mackey & Philp, 1998; Leeman, 2003) found CF to facilitate L2 learning more than those conducted in the language classrooms (Lyster, 2004; Havranek, 1999; Ammar & Spada, 2006; Ellis *et al.*, 2006; Yang & Lyster, 2010). The importance of classroom research is furthered by the fact that much language learning happens in the classroom, “where the teacher is the only proficient speaker and interacts with a large number of learners” (Spada & Lightbown, 2009, p. 159) and that drawing conclusions about language learning from laboratory studies of dyadic interactions is rather limiting (Lyster & Saito, 2010) since teacher-student exchanges are pedagogically different from those between a researcher and a research participant (Lyster & Mori, 2006). Furthermore, investigations on the efficacy of CF conducted in the classroom are of special significance because while the provision of feedback on form is often considered to be “the primary role of language teachers” (Chaudron, 1988, p. 132), instructors often struggle to provide feedback with more than one technique (Lyster & Ranta, 1997; Sheen, 2004) as well as to be consistent in their provision of CF when treating certain linguistic targets (Nicholas *et al.*, 2001).

Instructional context and the characteristics of learners within it is the final reason for the choice of research context. Defining the context of Quebec is especially paramount in light of its language policy and the status of English in the province’s educational system. A small minority in the predominantly English-speaking North America, Quebec’s population is primarily French-speaking (79.6%) with pockets of the English-speaking population (8.2%) and speakers of first languages other than English or French (12.3%) (Statistics

Canada, 2006). Up until the Quiet Revolution of the 1960s English played a prominent role in the province and knowledge of French was not required to obtain lucrative employment or to successfully settle in the province. This changed with the rise of a movement for Quebec separation from the rest of Canada, which demanded recognition of the people of Quebec as a nation with its unique ethnic identity and language (Winer, 2007). One key piece of legislation resulting from this movement was the passing of Bill 101 (the Charter of the French Language), which, in 1977, made French the language of education, workplace, and public signs province-wide. Although this did not abolish English-medium public schools, the number of children eligible²⁹ to enter them became restricted (Sarkar, 2004). Today, more than 90% of Quebec schoolchildren attend French language schools.

In terms of language instruction, both English and French are taught in public schools, but their programs and implementations differ. While French as a second language and French immersion are taught in both English- and French-medium public schools, only English as a second language programs are allowed in French-medium schools. English immersion programs, where English is the medium of instruction for content courses, are prohibited in Quebec (Gouvernement du Québec, 2007a, 2007b, 2007c). This means that native or proficient speakers of English who are not eligible to study in English must attend French-language schools. Still, English is a required subject in French primary and secondary schools as well as in French CEGEPs; this is also the case for French in English schools and CEGEPs. However, English is not necessary for many jobs or life situations in the province and is no longer a strong motivator for travel and employment in English areas because “Quebec francophones are 10 times less likely to leave’ the province than Quebec anglophones” (Bruemmer, 2006, cited in Winer, 2007, p. 503).

This makes Quebec’s situation unusual in that English here is “both a second and a foreign language, depending on one’s political orientation, geographic location, family background, and other factors” (Winer, 2007, p.

494). In the traditional ESL/EFL dichotomy, ESL has been defined as “the teaching of English [...] in countries where English is the major language of commerce and education, [where it is likely to be heard and] spoken on a regular basis in settings beyond the classroom” (Murphy & Byrd, 2001, p. 21, cited in Mattioli, 2004). EFL, in turn, refers to the teaching contexts that the above definition of ESL does not cover and where learners have limited or no opportunities to interact with English outside the classroom (Mattioli, 2004). Nayar (1997) argued against the binary nature of these labels that fail to reflect the linguistic reality of the changing role of English in today’s learning situations around the world. Instead, Nayar proposed taxonomy of three terms that in his view adequately cover the many nuances across the contexts in which English is learned: English as a second language (ESL), English as an associate language (EAL), and English as a foreign language (EFL). While in the ESL context, language learners usually have the goal of eventual acculturation and assimilation into the country’s society, in the EAL context assimilation is never the goal but learners are free, if they so choose, to identify with the native English culture. Here, unlike the ESL situation, English is not the sole language of all public domains but has applications for communicative use and may even form part of the speakers’ sense of identity. What’s more, some of the schooling and higher education in EAL communities is conducted in English, by teachers who for the most part are not native speakers of English. In EFL contexts, English holds no internal communicative function, is not part of the cultural identity, and is used to facilitate contact with English-dominated countries.

Hence, within Nayar’s three-term framework, Quebec falls under the EAL setting, where English is used in some public domains and is part of the schooling process. The actual use of English in the province, however, varies from one community to another. In the suburban Montreal communities (e.g., Hull-Gatineau, the Eastern townships), for example, English is widely used in the daily life, but this is not the case for smaller Quebec towns, where few

speak English and much of the public life is conducted in French. Even within the greater Montreal area, there is variability in the use of English with predominantly English- and French-speaking communities existing side by side. In terms of ESL instruction in the province, until 2006, the exposure to English among children in the French school system was anywhere from a minimum of 30 minutes to one hour per week starting in Grade 3 (age 8) until Grade 6 (age 11-12); school reforms of 2006 called for an earlier exposure to English with children starting to learn ESL in Grade 1³⁰. In high school, the exposure increases to a minimum of 150-200 minutes a week. It is important to note that the prescribed minimum of instruction, especially at the primary level, is often the maximum provided (Winer, 2007). This, however, varies depending on the type of ESL program offered: core or intensive/ enriched. While the core programs provide the recommended minimum in ESL instruction, learners in the intensive ESL programs (*bain linguistique* at the primary level and ESLA – advanced/ enriched ESL classes at the secondary level) study all subjects for one half of the year in French and the other, in English³¹.

The participants in this study were all attending a French-medium CEGEP, located in a predominantly French-speaking area of Montreal. While many of them reported French as their mother tongue (79%), those who claimed a different L1 (21%) said that they predominantly use French at home. This, in fact, is in line with the 75% of allophones (with some knowledge of either English or French) who, having immigrated to Quebec between 2001 and 2006, claimed to speak primarily French at home (Statistics Canada, 2006). This means that these learners probably have limited contact with English outside the classroom³² (Ammar & Spada, 2006) and even if they seek contact with English (American and Canadian) popular culture, it might not be with the purpose to learn the language since much of the literature, music, television and filmography produced in English is available and consumed across Quebec in French translation (Winer, 2007). As such, this demographic is of special interest for they live and study in the predominantly French environment but

are required to study English as a school subject within the wider ESL context of Canada. Although the recent meta-analysis on the effectiveness of oral feedback in L2 classrooms (Lyster & Saito, 2010) found no significant differences in terms of contextual influences on the effects of CF among studies carried out in SL versus FL settings, the present context of EAL adds a unique dimension to the investigation into the noticeability of CF and learner beliefs about it.

3.1.1 CEGEPs³³

The acronym CEGEP (*Collège d'enseignement général et professionnel*) refers to the public post-secondary educational institution exclusive to the Quebec education system. Founded in 1967, today's CEGEP system includes 48 CEGEPs across the province, five of which are English language-medium. Roughly translated as “General and Vocational College”, CEGEPs were designed to help young people to make a career choice by making post-secondary education more accessible and to provide proper academic preparation for those heading to university. As such, CEGEPs offer two types of programs: (1) the pre-university program, which is two years in length and leads to university studies, and (2) technical career programs, during which students have three years to acquire skills necessary for a profession or trade of their choice (e.g., nursing, policing, building engineering technology).

Students in Quebec spend six years in primary school (grades 1 through 6) and five years in high school (grades 7 through 11, or *Secondaire I to V* in French). If they wish to continue their schooling, students must attend a college before enrolling in a Quebec university. Upon the completion of the studies, students receive a Diploma of Collegial Studies (known as “DEC” or *Diplôme d'études collégiales* in French), which allows them to either find immediate employment in the trade learnt at college or to pursue an undergraduate degree in three instead of four years generally required at universities outside of Quebec. Regardless of the type of program chosen, all CEGEP students must

pass four core subjects, which include French, English³⁴, Humanities, and Physical Education. The guidelines for ESL instruction in Quebec (put forth by the Ministry of Education) require that upon completion of studies, college students be able to communicate in English well enough to comprehend and deliver messages of various levels of complexity (depending on the proficiency level) on both general and field-specific topics. As such, emphasis is placed on the development of speaking and listening skills (with some focus on reading and writing) and English teachers are encouraged to develop activities that reflect this goal.

3.1.2.1 The participating CEGEP

The CEGEP in which this study was conducted had 6,100 students enrolled in both pre-university and technical programs as well as 4,000 learners registered in the continuing education courses. Among the 26 technical programs offered, many (e.g., Computer Technology, Business Management, Accounting and Office Technology) are considered to be among the best in the city. To complete the English core requirement, the participating CEGEP requires that all students take two ESL courses. Although these can be taken at any time during the course of one's studies, the order in which they are pursued is predetermined. The first course is usually general in focus and targets improvement of learners' ability to speak, write, listen and read in English. The second course, in turn, is more specific to the student's program and works on improving his/ her knowledge of English for the work force or university studies.

3.2 Participants

The participants in this study were 197 francophone college students (129 females; 68 males) and their three male ESL teachers, residing in the province of Quebec. Table 6 presents the demographic information on the

student participants. The students ranged from 17 to 50³⁵ years in age (mean age: 20.75) and reported French as being the native language of the majority ($n = 156$; 78.8% of the total). While many spoke more than one language (language mean: 2), they felt most proficient in French, the language of instruction at the College. This was evidenced by the highest level of proficiency (“excellent”) they attributed to their ability to speak, write, read and listen in French (see Table 7). When probed about the context in which they learned their first and additional languages, the majority cited “home” ($n = 182$; 91.9% of the total) for the L1 and only “classroom” for the rest ($n = 186$; 94.4% of the total). Although no direct question about exposure to English was posed, the fact that “classroom” was indicated as the only venue where the participants experienced English ($n = 143$; 72.2% of the total), their L2, suggests that their contact with the target language was limited outside the classroom walls. The learners were part of nine intact classes that were later assigned to a specific CF treatment condition, the choice of which was based on the instructor teaching the class.

Table 6

Demographic information for the student participants (N=197)

| <i>Category</i> | <i>Level</i> | <i>n</i> | <i>%</i> |
|---------------------------------|--------------|----------|----------|
| Gender | Male | 68 | 34.3 |
| | Female | 129 | 65.2 |
| Age | 17-21 | 156 | 78.8 |
| | 22-27 | 27 | 13.5 |
| | 28 and over | 14 | 7.1 |
| First language (L1) | French | 156 | 78.8 |
| | Spanish | 13 | 6.6 |
| | Other | 28 | 14.1 |
| Languages spoken (total) | 1 | 28 | 14.1 |
| | 2 | 115 | 58.4 |
| | 3 | 43 | 21.7 |
| | 4 | 7 | 3.5 |
| Learning context | L1 home | 182 | 91.9 |

| | | | | |
|--|----|-----------|-----|------|
| | | classroom | 4 | 2 |
| | L2 | home | 14 | 7.1 |
| | | classroom | 143 | 72.2 |
| | L3 | home | 10 | 5.1 |
| | | classroom | 39 | 19.7 |
| | L4 | home | 3 | 1.5 |
| | | classroom | 4 | 2 |

Note: Not all of the categories add up to the total number of respondents as not all participants answered each question.

Table 7

Language proficiency self-ratings

| <i>Skill</i> | <i>Level</i> | L1 (n=196) | | L2 (n=174) | | L3 (n=54) | | L4 (n=7) | |
|------------------|--------------|-------------------|----------|-------------------|----------|------------------|----------|-----------------|----------|
| | | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> | <i>n</i> | <i>%</i> |
| Writing | poor | 18 | 9.1 | 60 | 30.3 | 25 | 12.6 | 5 | 2.5 |
| | good | 76 | 38.4 | 102 | 51.5 | 27 | 13.6 | 2 | 1 |
| | excellent | 102 | 51.5 | 12 | 6.1 | 2 | 1 | 7 | 3.5 |
| Speaking | poor | 2 | 1 | 70 | 35.4 | 21 | 10.6 | 3 | 1.5 |
| | good | 30 | 15.2 | 66 | 33.3 | 28 | 14.1 | 4 | 2 |
| | excellent | 163 | 82.3 | 38 | 19.2 | 5 | 2.5 | 7 | 3.5 |
| Listening | poor | 0 | 0 | 29 | 14.6 | 16 | 8.1 | 2 | 1 |
| | good | 22 | 11.1 | 84 | 42.2 | 30 | 15.2 | 4 | 2 |
| | excellent | 172 | 86.9 | 61 | 30.8 | 8 | 4 | 1 | .5 |
| Reading | poor | 4 | 2 | 42 | 21.2 | 17 | 8.6 | 0 | 0 |
| | good | 36 | 18.2 | 93 | 47 | 31 | 15.7 | 6 | 3 |
| | excellent | 153 | 77.3 | 39 | 19.7 | 6 | 3 | 1 | .5 |

Note: Not all of the categories add up to the total number of respondents as not all participants answered each question.

As with any study that includes multiple measures and is situated in a classroom context, attrition is a concern. Similarly, here, not all learners were present for all measures – beliefs questionnaire, pre-tests, instructional treatments, noticing measures, post-tests and delayed post-tests. While the beliefs questionnaire data involved 197 participants, the total for the remaining measures amounted to 99 learners. In determining what college-level learners believe about CF, 197 responses were used; to identify the noticeability and

effectiveness of the two CF types, the scores of the remaining 99 participants were used. The breakdown of the learners who participated in all the measures is presented in Table 8.

Table 8

Number of participants per group

| Group | Teacher | <i>n</i> |
|--------------------------|----------------|-----------------|
| Recast | Albert | 31 |
| Prompt | Brian | 25 |
| Mixed (Recasts/ Prompts) | Charles | 23 |
| Control | Researcher | 20 |

3.2.1 Language proficiency in English

All the students were of high-beginner proficiency and were enrolled in their second course of English. The participants' linguistic knowledge was determined by the English language placement test administered in their first semester at the College. The results of the test place students in a course that best suits their current knowledge of English. However, because the placement test is not fool-proof, teachers are required to conduct another test of proficiency once they meet students in the first week of classes³⁶. If a student's level is too high or too low for the level in which he/she has been placed, the teacher would then recommend that the student be moved up or down a level to ensure that the student is properly placed within the program. The level change is permitted either before the beginning or upon completion of the first English course. If no level-change recommendation is made, the student will then remain in the level determined by the placement test for the second course even if the teacher of the second English course feels that the learner needs to be in a different class. Hence, the onus is placed on the teachers to ensure that learners

are placed appropriately. In the context of this study, we were assured of the appropriate placement of the participants.

3.2.2 The English course

The general description of the second ESL course the participants were attending at the time of the study stated that it aimed at people with a good base in spoken and written English, who still needed to improve their fluency and accuracy as well as to increase the level of confidence they felt when functioning in the L2. The overall objective of the course was to increase learners' communication skills by having them engage in activities that target the four skills of language knowledge. Specifically, by the end of the course the participants would need to be able to:

1. Comprehend the general content and main ideas of oral and printed texts related to your field of study (listening and reading),
2. Speak intelligibly for several minutes about a subject related to their field of study, using appropriate vocabulary and acceptable grammar (speaking), and
3. Compose a coherent and logical text of approximately 200 words related to their field of study, using appropriate vocabulary as well as acceptable grammar and spelling (writing)³⁷.

Hence, the primary focus was placed on the development of speaking and listening skills, which is in line with the MELS's objective to enable learners at this level to communicate in basic English, using field-specific expressions³⁸. The students met as a class once a week (for 15 weeks) for a period of three hours, two of which were spent in the classroom and one in the language laboratory. During the classroom portion, the teacher would usually engage learners in any combination of the following: grammar teaching and practice, listening and reading practice, speaking in groups, vocabulary work,

and teaching of writing conventions. The lab time would be dedicated to the individual practice of grammar, listening, vocabulary and/ or writing, amount of which differed with each teacher. In addition to the three hours spent in class with the teacher, the students were required to dedicate three hours a week to homework, which was given regularly and usually consisted of accuracy-driven practice³⁹.

3.2.3 Teachers

The three participating teachers were English/ French bilinguals and seasoned ESL professionals who have taught English for a number of years and in a variety of settings. The first teacher, Albert⁴⁰, had over 30 years of teaching experience, 25 of which were spent at the College, where he was active in the life of the English department, having held a variety of posts and organized programs directed at improving learner development. Although the other two teachers, Brian and Charles, did not have as much experience with ESL learners as Albert, each had taught English for over 15 years in and outside Canada. Both boasted an extensive list of CEGEPs as well as other educational institutions at which they taught in Quebec. They also had experience teaching EFL in South Korea (Charles) and Taiwan (Brian). Both held Master degrees in Applied Linguistics.

Although the teachers volunteered to take part in the study, before their offer could be accepted each was observed by the researcher to determine (1) the extent to which his classes were communicatively-oriented and (2) to identify the usual way in which the teacher provided corrective feedback. The observations were done during the third-to-last class (Week 13) of the fall session (i.e., the term before the research commenced) and lasted for one hour each⁴¹. The researcher sat at the back of the class and took notes in real time on the activities observed and the types of CF provided. Part A of the COLT (Communicative Orientation of Language Teaching) observation scheme

developed for L2 classrooms, and described by Spada & Fröhlich (1995), was used to establish the teaching methodology in place. COLT was chosen because it is an effective tool to distinguish between more or less communicatively-oriented classrooms. The observations are coded in terms of content (form/meaning), participant organization, and activities employed. The results indicated that the three teachers had comparable teaching styles in that very little explicit instruction regarding form was provided and the main focus of the activities observed was to transfer meaning via oral communication tasks.

Table 9

Corrective feedback observation scheme, adapted from Ammar and Spada (2006)

| Student turn | Teacher turn | | | |
|--------------|--------------|---------|---------|-------|
| Error | Ignore | Prompts | Recasts | Other |
| | | | | |

To determine how the teachers provided feedback, the negative feedback observation scheme originally developed by Ammar and Spada (2006) was employed (Table 9). The scheme, which included five columns: (1) error, (2) ignore, (3) recasts, (4) prompts, and (5) other, was used to keep a record of the errors students made in speaking as well as the CF strategies the teachers used to correct them. Every time an error was committed, it was recorded in the “error” column. If it was ignored by the teacher, a mention of this was made in the “ignore” column. However, if the teacher reacted to the error, the corrective technique used was recorded in one of the three CF columns. Because only these two CF techniques were of particular interest to this study, all other corrective moves were grouped under “other” and not counted. Although the coding was facilitated by the fact that students took turns answering the teacher’s questions, it is possible that due to human error and

occasional answers supplied by more than one student at a time, not all errors were captured. This, however, was not deemed a problem since the intention of the observations was to determine the overall corrective style the teachers had and the exact error count was not considered a priority.

The analysis of the schemes revealed that the three teachers addressed most of the learners' errors, but did so using different methods. While Albert chose to respond primarily with recasts, Brian showed a clear preference for prompts. Charles, in turn, appeared to consistently alternate between recasts and prompts. To confirm these observations, the researcher met with each of the teachers to discuss the feedback techniques they felt themselves provide. The interviews corroborated the researcher's original observations, as is evidenced in the following two extracts from the conversations with Brian and Charles⁴².

Brian:

My philosophy is that students should be pushed to reflect on what they said and then reproduce the utterance themselves if possible. If they still make the error, I then open it up to the class and have others correct. I only use explicit correction or a recast if this fails. I think the experience/memory gained from pushing the learner to try again (whether the student or another classmate gets the answer) makes it more salient. Furthermore, prompts guarantee some form of uptake so we know the student has registered the corrective attempt by the teacher. Comparatively, we do not always know whether uptake has been achieved in the instances of using recasts or explicit correction.

Charles:

Being a recaster and prompter by nature, I think I am inclined to use recasts naturally when my experience tells me that a prompt is unlikely to work, that nobody knows and so an elicitation won't be an efficient use of time. [...] I expect that prompts prime the students to expect corrective feedback in all forms. Alternating between recasts and prompts is therefore the most efficient form of corrective feedback.

Based on these comments, each teacher was assigned to the CF condition that naturally suited him – Albert was assigned to the “recasts” group,

Brian to the “prompts” group, and Charles to the combination group of “recasts + prompts”. Since it was not possible to find another teacher from the same college who (1) wished to participate in the study and (2) provided no feedback, the researcher taught the control group during the intervention phase. Between the three teachers, there were nine classes of learners. While Albert had the most number of classes (five), Brian and Charles had two each. As such, Brian’s two groups became the “prompt” condition and Charles’s classes – the “mixed” condition. Albert’s classes, in turn, were randomly split into three groups that represented the “recast”⁴³ condition and two that became the “controls”. Figure 1 graphically illustrates the way the teachers were assigned to groups.

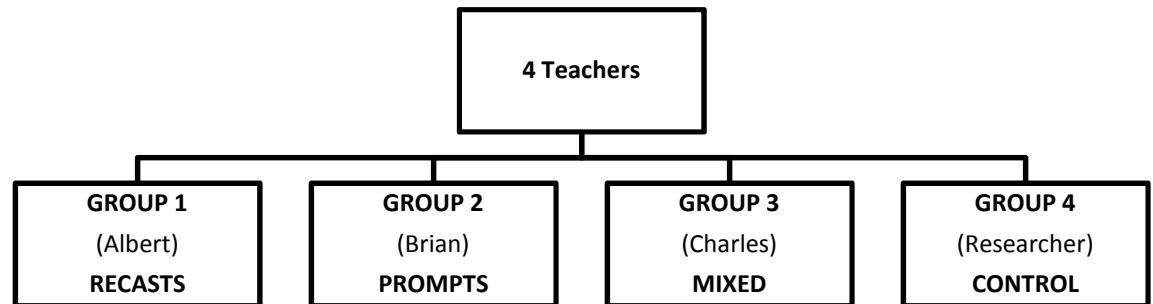


Figure 1: Teacher assignment

3.2.3.1 Feedback conditions

Each teacher was given an instructional booklet, which described the objectives of the study and target features under investigation, explained the timeline and the data collection tools, as well as detailed the instructional materials to be used during the experiment⁴⁴. The teachers were instructed to provide CF on the errors with the simple past verb forms and questions in the past during two interventional activities. To ensure that the teachers adhered to

their feedback condition, examples of what the teachers should and should not do were provided as guidelines. Specifically, the “recaster” was reminded to:

1. React immediately to the students’ errors with the past and questions in the past⁴⁵,
2. Reformulate students’ incorrect utterances,
3. NOT to comment on the grammaticality of students’ incorrect utterances, and to
4. NEVER push students to correct their ungrammatical utterances. Always provide corrections YOURSELF.

In terms of what should and should not be said, the following examples were provided for the “recaster”. For example, if a student says **He go to the movies yesterday*, any of the following options can be adopted:

1. Went
2. He went
3. Okay. He went to the movies yesterday.
4. Where did you say he went yesterday?
5. He went to the movies yesterday. Did he go alone or with someone?
6. Ehh, he went to the movies yesterday. Did he do anything else?

You **should NEVER say** the following in response to the error outlined above:

1. No, He went to the movies yesterday.
2. No, “He go” is incorrect. You should say “he went”.
3. He go? He went.
4. When did he go? Yesterday? So, what should we say?
5. We don’t say “he go” in English. We say “he went”.
6. We say “he went” because the action happened yesterday.

The “prompter”⁴⁶, in turn, was asked to:

1. React immediately to the students' errors with the past and questions in the past,
2. Repeat the student's incorrect utterance either as whole with rising intonation or partly by zooming in on the error,
3. Provide students with CLUES that may help them to SELF-CORRECT, and to
4. NEVER provide the correct answer. Always push students to self-correct.

The examples of what to and not to say when prompting were as follows. You

SHOULD say:

For example, if a student says **He go to the movies yesterday*, any of the following options can be adopted:

1. He go to the movies yesterday? Is that correct in English?
2. Go yesterday? Go?
3. When did he go? So what should we say?
4. We don't say "he go" in English. What do we say?
5. He go to the movies yesterday? When did he go to the movies?
6. It was/ happened yesterday. So what should we say?
7. "He go" is incorrect.
8. No, not "go". It happened yesterday. How do we form past in English?
9. He *what* yesterday?

You **should NEVER say** the following in response to the error outline above:

1. "He go" is incorrect. You should say "he went".
2. He went to the movies yesterday.
3. We don't say "he go" in English. We say "he went".
4. We say "he went" because it happened yesterday.
5. He went.
6. Okay. He went to the movies yesterday.

The teacher in the “mixed” condition was asked to alternate between the two techniques (recasts and prompts) as equally as possible during the activities, taking extra steps not to overuse one method over the other. In fact, Charles took it upon himself to come up with a system to remind himself of which technique to use when. Specifically, he wrote “recast” on one side of a cue card and “prompt” on the other. During the activities, he would flip the card from one side to another to help him keep track of the technique he should employ next. Of course, when the use of a particular technique did not correspond to the needs of the classroom, Charles would use the correction type that was suited best for that moment. In terms of what to do when recasting and when prompting, the teacher of the “mixed” condition was advised as follows:

| When RECASTING | When PROMPTING |
|---|--|
| <ol style="list-style-type: none"> 1. React immediately to the students’ errors with the past 2. Reformulate students’ incorrect utterances 3. Do NOT comment on the grammaticality of students’ incorrect utterances. 4. NEVER push students to correct their ungrammatical utterances. Always provide corrections YOURSELF. | <ol style="list-style-type: none"> 1. React immediately to the students’ errors with the past 2. Repeat the student’s incorrect utterance either as whole with rising intonation or partly by zooming in on the error. 3. Provide students with CLUES that may help them to SELF-CORRECT. 4. NEVER provide the correct answer. Always push students to self-correct. |

Examples of what should be said in response to **He go to the movies yesterday* included the suggestions below:

| When RECASTING | When PROMPTING |
|---|--|
| <ol style="list-style-type: none"> 1. Went 2. He went | <ol style="list-style-type: none"> 1. He go to the movies yesterday? Is that correct in |

| | |
|--|---|
| <p>3. Okay. He went to the movies yesterday.</p> <p>4. Where did you say he went yesterday?</p> <p>5. He went to the movies yesterday. Did he go alone or with someone?</p> <p>6. Ehh, he went to the movies yesterday. Did he do anything else?</p> | <p>English?</p> <p>2. Go yesterday? Go?</p> <p>3. When did he go? So what should we say?</p> <p>4. We don't say "he go" in English. What do we say?</p> <p>5. He go to the movies yesterday? When did he go to the movies?</p> <p>6. It was/ happened yesterday. So what should we say?</p> <p>7. "He go" is incorrect.</p> <p>8. No, not "go". It happened <u>yesterday</u>. How do we form past in English?</p> <p>9. He <i>what</i> yesterday?</p> |
|--|---|

Although no examples of what should not be said were provided, the teacher of the "mixed" condition was asked not to provide explicit feedback, as in "*We don't say 'go' [stressed]. You should say 'went' [stressed]*". Finally, although an instructional booklet for the "control" condition instructing the prospective teacher "not to, under any circumstances, correct any of the errors learners made" was also prepared, it was not used because the researcher taught this group.

3.3 The target features

There is a consensus in the field of SLA that not all grammatical structures are acquired in the same way (Larsen-Freeman, 1995). While some can be acquired through simple exposure in the input, others need to be taught. Although the choice of structures that require teaching is not clear-cut, research shows that instruction, coupled with CF, facilitate acquisition of the majority of L2 features that learners need to master (Doughty & Williams, 1998; Lightbown, 1998). These usually include features that lack salience in the input, are misleadingly similar to certain L1 structures, and affect the intended

meaning in ways that can lead to a communication breakdown (Doughty & Williams, 1998). The two morphosyntactic features investigated in this research, namely the simple past and questions in the past, represent features that are generally problematic for ESL learners, regardless of L1. They also represent different levels of complexity (DeKeyser, 1998, 2005) and are subject to L1 interference (e.g., Ammar *et al.*, 2010; Collins, 2002). Despite their inherent challenges, which are detailed below, the English simple past and question formation occur frequently in the input (Doughty & Varela, 1998), which facilitates their elicitation during communicative tasks (McDonough, 2007), and have received much attention in developmental research that showed them as good candidates for learner improvement when CF targeting them is provided (e.g., Mackey & Philp, 1998; McDonough, 2005; McDonough & Mackey, 2006; Mackey, 2006 for questions; Doughty & Varela, 1998; Ellis *et al.*, 2006; Han, 2002; McDonough, 2007; and Nobuyoshi & Ellis, 1993; Yang & Lyster, 2010 for past tense). Finally, research has shown that noticing of feedback leads to language development, but it, in large part, depends on the technique employed and on the nature of the error (e.g., Mackey *et al.*, 2000; Ammar & Sato, 2010a; Ammar, 2008).

3.3.1 Levels of complexity

DeKeyser (1998) claims that acquisition of linguistic forms is defined by grammatical, not processing difficulty, which is composed of at least three parts: (1) complexity of form; (2) complexity of meaning; and (3) complexity of the form-meaning relationship (DeKeyser, 2005). The complexity of form lies in the steps a learner needs to take to express the intended meaning correctly. He/ she needs to (1) select accurate morphemes and allomorphs and (2) correctly position them within a word. The meaning may also be problematic due to its novelty, abstractness, or both. Certain grammatical structures – such as articles, grammatical gender, tense and aspect combinations

– present learning challenges to those L2 learners whose L1s either do not have them or use different means to express these functions. Furthermore, due to their abstract nature, most of these features defy instruction because their complex nature prevents the rule to be stated clearly (Doughty & Williams, 1998; DeKeyser, 2005). Finally, the form-meaning relationship is particularly complex because the link between the two is not always clear. The lack of clarity may be due to (1) redundancy, (2) optionality, or (3) opacity of the given relationship (DeKeyser, 2005).

Redundant forms are “not semantically necessary because meaning is also expressed by at least one other element of the sentence” (DeKeyser, 2005, p. 8). For example, in *He sings*, the verb final *-s* is not necessary because the subject (*he*) signals the grammatical person and number categories. An example of an optional form would be the null subject in Russian, where the markings on the verb indicate the doer and do not require, but often include, an overt subject – *Oni poyut* (“They sing”). This is likely to create a problem for an L2 learner, who, without instruction, lacks the “feel” (Hulstijn, 1995) for the form-meaning link. Lastly, opaque relationships are the ones where “different forms stand for the same meaning, and the same form stands for different meanings” (DeKeyser, 2005, p. 8). The best example of such a relationship in English is perhaps the *-s*, which can take on a variety of roles - the third person singular of the verb, the plural of the noun, and the possessive of the noun – but keeps the same form to do so. This may confuse an ESL learner trying to decipher and appropriately apply the three different meanings of one form, especially if his/her L1 uses different markings to indicate each of the relationships.

As such, the two target features of interest (simple past and questions in the past) represent different levels of complexity. The simple past is difficult in terms of form because a learner is required not only to know the correct morpheme (/ed/) for the regular verbs in the past, but to also position it correctly within the verb. This task is complicated further with irregular verbs because the learner needs to know the corresponding form of the verb in the

past. In terms of the complexity of meaning, the English past tense is difficult because even though clues about whether the verb form should be regular or irregular exist, they do not provide a reliable (Hulstijn & De Graaff, 1994) rule that assures flawless application every time. The form-meaning complexity of the past tense is evidenced by the fact that learners often leave the verb in its base form whenever a temporal marker signalling a completed action (e.g., yesterday, last week) is present in a sentence (redundancy). Furthermore, the opacity of the form-meaning relationship may be seen with some irregular verbs. For example, while the past of the verb *read* is identical to its base form in terms of appearance, it is different in meaning and pronunciation. This is because the morphology of the English irregular past tense verbs makes it difficult for learners to connect the verb form with its meaning (DeKeyser, 2005). The complexity and unpredictability of irregular past tense verbs were also discussed by N. Ellis (2005), who referred to regular past tense as rule-based (because there is a clear general rule) and irregular past tense verbs as exemplar/ item-based (no rule). The differences in representation of the two forms may lead to varying acquisitional processes, N. Ellis posited.

As for questions, while the form and meaning might not be difficult for learners to acquire, the form-meaning relationship usually is. The complexity is due to the opacity of the relationship in that the subject-verb inversion, although clearly marked by native speakers, often goes unnoticed by L2 learners. In fact, “cases of opacity probably appear to be instances of optionality” (DeKeyser, 2005, p. 10), preventing learners from noticing the necessary inversion in questions until the advanced stages of proficiency (Hertel, 2003). But, even if learners notice the said inversion, the perception of its function might interfere with the correct application. Hammarberg (1985), for example, investigated the necessary subject-verb inversion in questions and declarative sentences with items preceding the subject in L2 Swedish and found that L2 learners inverted questions long before they did the statements. Not noticing the need to invert was clearly not the problem in both cases; instead, the learners chose to ignore

the information about declarative statements because of the perceived difference in pragmatic function of questions and statements. For them, while the inversion in questions was a logical requirement, the inversion in statements was a matter of formality.

3.3.2 L1 influence

SLA research has provided evidence that a speaker's L1 can influence his/her ability to acquire an L2. While the differences between the two languages can result in errors (Odlin, 1989), inaccuracies in the L2 grammar (e.g., L. White, 1991), and avoidance of some grammatical features (Schachter, 1974), the similarities can also bring about problems of overreliance on the L1 grammar (e.g., J. White, 1998; Collins, 2002, 2007; Spada & Lightbown, 1999; Ammar *et al.*, 2010), especially with learners with the same L1⁴⁷. Question formation and the past tense verb forms have been identified as especially challenging for francophone learners of English because the two structures contain misleading similarities between L1 French and L2 English. These features have also been studied with L1 speakers of other languages and developmental sequences for each have been developed.

The Pienemann and Johnston's (1987) developmental sequence for question formation in English, used in a number of studies (e.g., Mackey, 1999; Mackey & Philp, 1998; Spada & Lightbown, 1999; Philp, 2003) to measure the degree to which questions are acquired, suggests that learners, regardless of L1, start forming questions without inversion by simply adding rising intonation (or a question mark, in writing) to a declarative sentence to signal interrogation, but later, they progressively learn to invert the subject and verb of the Yes/ No questions, followed by inversion with the Wh-question forms. The similarity that hinders successful inversion for L1 French learners of English lies in the fact that while any subject (noun or pronoun) can be inverted in English, French does not allow for subject that is a noun or noun phrase to be inverted (**Peut le garcon jouer au hockey?*, Ammar *et al.*, 2010, p. 131); pronouns in the subject

position, however, can be inverted (e.g., *Peut-il jouer au hockey?*, Ammar *et al.*). A program of research dedicated to the study of this misleading similarity has confirmed the difficulty French-speaking learners of English face with accurate recognition and use of English questions. The initial study in the series (Spada & Lightbown, 1999) considered the extent to which high-frequency exposure to English questions in the input (without explicit metalinguistic information) would allow francophone learners to recognise the appropriateness of the inversion rule with subject nouns. Other studies provided explicit information on English questions and promoted practice of the rules (L. White, Spada, Lightbown, & Ranta, 1991) as well as compared the effectiveness of explicit instruction of question forms versus lessons that included contrastive information on question formation in English and in French (Spada, Lightbown, & White, 2005). The results indicate that the learners in all of these studies relied heavily on the L1 rule of not inverting noun subjects with the auxiliary verbs, failing to apply the more inclusive L2 rule. When probed to explain why they used a certain question sequence or the reason why they judged a question as correct or incorrect, the learners either could not or were unwilling to do so (Lightbown & Spada, 2000). More recently, Ammar, Lightbown and Spada (2010) set out to investigate (1) how much the French L1 no-inversion-with-the-noun-subject rule influenced young francophone learners' ability to correctly form and evaluate English questions, and (2) if the learners were aware of this influence. The results showed that the learners rejected the L2 rule in favour for the one in the L1 and that they used *do/does* as the invariant French question form *est-ce que* to form a question (without inversion). While the majority of the learners could not articulate the differences in question formation between the two languages, those that could showed a greater ability to correctly form and judge the grammaticality of the English questions.

A similar developmental sequence for the emergence of past tense morphology has been observed for learners from different L1 backgrounds (Lightbown & Spada, 2006), predicting that learners typically begin by

referring to events in the order they occurred (e.g., *My son come. He work in restaurant.*), which is followed by emergence of a grammatical morpheme marking the verb for past (e.g., *Me working long time. Now stop.*), then they gradually start using the irregular past forms, which leads to an overgeneralization of the regular *-ed* ending or the use of the wrong past tense form (e.g., *My sister caught a big fish. She has lived here since 15 years.*). There is, however, another past tense developmental sequence that is based on the inherent lexical⁴⁸ aspect of verbs. A non-grammatical category that refers to the inherent temporality of verbs and predicates, lexical aspect includes stative (e.g., *want, like*), dynamic (e.g., *run, jump*), punctual (e.g., *recognize, notice*), and durative (e.g., *talk, sleep*) verb meanings (Bardovi-Harlig, 2000; Yule, 1998).

In her cross-linguistic research on past tense morphology, Bardovi-Harlig (2000) observed that L2 learners tend to mark some verbs for past, but not others. A closer investigation revealed that learners marked past with the verbs that signal completion of an event (i.e., telics: *build a house; paint a picture*) than those that indicate its possible continuation (i.e.: non-telics: *swim all afternoon; seem happy*). In fact, analyses of oral and written production of language learners have shown that situations expressed by verbs in any given language can fit into one of four categories: stative, activity, accomplishment, and achievement, which account for the development of the past tense morphology based on the lexical verb aspect. Learners generally acquire *achievement* verbs that are dynamic, telic, and punctual (e.g., *I found a ten-dollar bill; They noticed the flower*, Collins, 2007, p. 297) before those that signal *accomplishment* (i.e., verbs that are dynamic and telic, but not punctual, as in *She swam across the river; I will sing a song*, Collins). Then, *activity* verbs (i.e., dynamic but neither telic nor punctual, as in *I ran very fast to get away from that place*, McDonough, 2007, p. 331; *I swam in the river*, Collins) precede *stative* predicates that are neither dynamic, telic, nor punctual (e.g., *He looked puzzled*, Collins; *We understand the questions*, Yule, 1998, p. 63). The

same verb can appear in several categories to express the intended meaning. For example, *He looked puzzled* denotes a state of the person (not an action he is performing), but *He is looking at the map* signals an activity. Similarly, *I swam in the river* describes an activity with no intrinsic end-point, whereas in *She swam across the river* the length of the river is the denoted end-point and must be reached for the goal to be accomplished and the meaning to become true. The simple past tense most frequently calls for verbs that denote achievement and accomplishment because these describe situations with predetermined end-points. Contexts without inherent end-points require the progressive aspect. Non-dynamic situations, in turn, usually employ the simple aspect and can be used with the present and past tenses (Bardovi-Harlig, 1998; 2000).

Tense-aspect challenges that arise for francophone learners of English have to do with the fact that French has a compound past (*passé composé*), which is similar in form to the English present perfect (*has caught = a attrapé*, Collins, 2007, p. 295) but denotes indefinite past meaning, as in *Have you travelled to Europe?* In contexts that call for a definite end-point, English requires the use of the simple past, but French does not place this restriction on the *passé composé* (*The movie started vs. Le film a commencé*, Collins, 2007, p. 296). As a result, these learners overuse the present perfect in the simple past obligatory contexts because they perceive it to be equivalent to the compound past in their L1 (Collins, 2002, 2007). This is the conclusion that Collins (2002) arrived at, having investigated the use of the English past verb forms by francophone ESL learners. She found that in the simple past obligatory contexts, these learners consistently used the present perfect, especially with *achievement* and *accomplishment* verbs. The influence of the L1 rule, however, was deemed to manifest itself only once the learners began to actually produce the simple past, which signalled the “crucial similarity” (Wode, 1976/1978, cited in Collins, 2002, p. 85) between an L1 form (the *passé composé*) and an L2 form (the present perfect). In a comparison study on the acquisition of the simple past by university-aged Japanese and French-speaking learners, Collins

(2007) found that although the two groups were very similar in the use of the simple past with telics, the Japanese speakers were more accurate (81% appropriacy) than the francophones (74%) in the use of *achievement* verbs. A closer look at the difference revealed that the French speakers over-used the present perfect with *achievement* verbs, which was directly linked to the L1 interference.

To summarize, the past tense and questions in the past were chosen because they represent different levels of grammatical difficulty, are a challenge for most learners, and are heavily influenced by the L1 of the participants of the present study.

3.4 The instructional intervention

The instructional intervention consisted of two 120-minute sessions distributed over two weeks. During the instructional sessions, which were videotaped, the participants engaged in two communicative tasks (one per session), which were designed to promote the use of the simple past and questions in the past⁴⁹. This was done to ensure that the learners were presented with opportunities to hear and produce output rich in the targets of interest while engaged in a genuinely communicative activity. During the student-fronted portions of the activities, the teachers in the CF groups provided either recasts, prompts, or a combination of the two in response to errors in past verb forms and questions. The teacher of the control group ignored past tense errors, instead reacting to content. No instruction on the simple past or questions in the past prior to the intervention was conducted because (1) learners at this level already possess the necessary knowledge about the simple past and questions having been exposed to it throughout their elementary and high school careers⁵⁰, and (2) the goal of this research was to see if learners notice feedback delivered in the classroom.

The two activities were adapted from *Bridge to Fluency: Speaking (Book 1)* (Gatbonton, 1994). For the first activity (Alibi), the students were told that a crime was committed last Saturday between 6 a.m. and 6 p.m. and that they all were suspects in that crime. Their task was to work in groups of four to create a story about their whereabouts on the day in question. No restrictions were placed on the story line they were to create with the only objective being that everyone in the group had the same story. This was important for after the stories were created, members of the groups were interrogated separately about their weekend activities by the rest of the class to determine if the four had in fact spent the weekend together and whether their alibi held. The aim here was to first, have the students use the simple past to come up with actions depicting past events (in their alibis) and second, to push them to probe the accuracy of the activities and events surrounding them by posing questions in the past.

Although the set up of the second activity (Accidents) was different from the first, the goals were the same in that the learners were to produce phrases and questions in the past. At the beginning, all the students together with the teacher examined a picture depicting a scene of an accident, which left one man, Ben, seriously injured (Appendix A). The picture also included ten other people, who were involved in different kinds of accidents and as such, became witnesses to Ben's injury. To ensure that everyone could describe the events depicted, the teacher quizzed the learners on the necessary "accident" verbs. In pairs, the students were then given a name of one of the ten witnesses and together had to pretend that they were that person as well as to create a story of why they were on the scene and what happened to Ben. Again, no guidance as to the story line was provided, but the learners were given questions to direct their narrative so as to ensure that all had similar amount of information in the end. For the second phase of the activity, the pairs were split. One member of the group kept his/her identity of the assigned witness, but the other had to assume the identity of a police officer investigating the events of the accident. The police officers were required to ask the witnesses as many

questions as was necessary to come up with an official report of what happened to Ben. In the end, the learners were given opportunities to create events in the past and to ask each other questions about them.

The learners reported great satisfaction with the two activities and the opportunity to interact with their peers in English; sadly, for many this was the first time they were encouraged to engage in a communicative task in the target language. Unfortunately, their past experiences learning English had been restricted to individual practice of grammar and reading, without activities that promote peer communication. Limited use of English in the ESL classrooms of Quebec is, unfortunately, a common problem and has been reported by many primary and secondary student teachers (Winer, 2007), and this is despite the official MELS's mandate that specifies English as the language of instruction and communication in the ESL classroom (Gouvernement du Quebec, 2007a, 2007b, 2007c).

3.5 Data collection tools

3.5.1 Noticing

Data on noticing were collected by way of two measures: (1) immediate recall and (2) lesson reflection sheets filled out at the end of class time (Appendix B). The immediate recall measure of noticing was chosen for two reasons. First, because it is carried out *immediately after* the event of interest, learners are able to “verbalize thoughts they had during a conversational turn immediately after a recall prompt” (Mackey & Gass, 2005, p. 85). The immediacy of the recall facilitates retrieval of mental processes at play and prompts verbalization of thoughts that do not rely on memory. As such, immediate recall provides an effective means to examine attention to feedback as it is provided in the language classroom. Furthermore, the immediacy of the measure makes it different from other recall protocols used to investigate noticing. Think-aloud protocols, for example, require learners to simultaneously

observe and report the thoughts they have *while* completing a task. Stimulated recall, in turn, prompts learners to talk about the thoughts they had while at task, but does so after the task has been completed. Second, to date, few studies in SLA have used this technique to measure noticing of feedback (Philp 2003; Egi, 2007a; Trofimovich *et al.*, 2007, Ammar & Sato, 2010a). What's more, all of these investigations were carried out in the laboratory setting and in the context of interaction, bringing into question the effectiveness of the technique in a language classroom. Finally, so far, the only investigation into the effectiveness of tools used to measure noticing of CF in the classroom (Ammar & Sato, 2010a) has found immediate recall to be the most effective in tapping into learners' ability to recognize the corrective intent of CF.

The immediate recall was carried out during the two communicative activities described above. Following some CF instances the researcher lifted a red-coloured card, which by prior agreement, prompted the learners to individually write down⁵¹ what they were thinking about at that moment in relation to what was happening in class. The exact instructions were as follows: "*Each time you see the RED CARD, write what you are thinking in relation to the lesson.*" The participants were provided with sheets on which to record their thoughts and were free to respond in either English or French⁵² (Appendix B). They were instructed not to write anything (or to simply state "nothing") if they felt unable to report their thoughts at that time.

Table 10 accounts for the instances of immediate recall. In the recast group, there were a total of 28 stops per group, 25 of which were after the CF instances (13 after errors with the simple past and 12 with questions) and 3 following other scenarios (e.g., disciplinary comments, explanation of tasks) serving as distractors. Similarly, in the prompt group, the total number of pauses was 27, with 24 stops after instances of feedback (12 per target), and 3 served as distractors. In the mixed group, however, the number of stops following feedback was increased to 33 (18 after errors with the past and 15 after errors in questions) to ensure a comparable distribution of errors corrected

with recasts and with prompts. The number of distractors for this condition was also increased to 7. All the instances of immediate recall were video-taped and transcribed for evidence of noticing. It is important to note that although care was taken to ensure equal distribution of pauses per error type, at times the task was difficult to achieve due to the “live” nature of the noticing tool used and the unpredictable nature of the classroom.

Table 10

Corrective feedback immediate recall instances across groups

| CF type | Simple Past | Questions in the past | Distractors |
|---------------|-------------|--------------------------|-------------|
| Recast | 13 | 12 | 3 |
| Prompt | 12 | 12 | 3 |
| Mixed: Recast | 10 | 8 | 7 |
| Mixed: Prompt | 8 | 7 | |
| Total: | 43 | 39 | 13 |

Similar to the previous uptake research (e.g., Panova & Lyster, 2002; Lochtmann, 2002; Havranek, 2002; Sheen, 2004; Lyster & Ranta, 1997), the red card was used after full corrective episodes (“error treatment sequence”, Lyster & Mori, 2006, p. 280) in that the teacher reacted to the learner’s error and then waited for the learner to respond. Figure 2 depicts a corrective episode. The corrective episode begins with a learner utterance that contains an error. Then, the teacher provides feedback in the form of a recast or a prompt. The feedback move is then followed by learner’s immediate reaction to the teacher’s correction (i.e., uptake), which can take a variety of forms. For example, the student may correct the error on his/her own (i.e., self-repair) or with the help of a peer (i.e., peer-repair); he/she may also simply repeat the form supplied by the teacher. While prompts are usually followed by self-repair or peer-repair, recasts are often repeated because they include the target form and can be either replicated or incorporated into a longer utterance (Lyster & Ranta, 1997; Lyster

& Mori, 2006). In the case when learner's uptake is non-targetlike ("needs repair"), the student can verbally acknowledge the error, produce a different/same error, hesitate, speak off target or produce a partial repair (Lyster & Ranta, 1997).

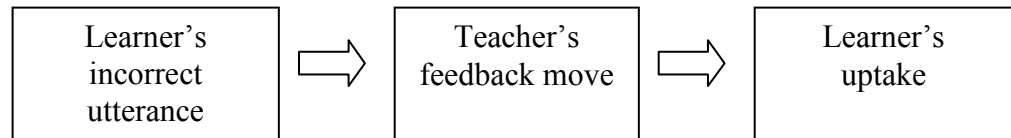


Figure 2: Corrective episode

The full corrective episodes were used to allow learners extra opportunities to notice what the teacher was trying to alert them to. Table 11 provides examples of the corrective episodes used in this study in response to errors with the simple past and questions in the past.

Table 11

Immediate recall corrective episodes

| CF Type | Simple Past | Questions in the past |
|---------|--|--|
| Recast | <p><u>“WE WENT TO THE AIRPORT”</u> S1: What did you do when you woke up? S2: Ahh, we don't do anything special. T: You did not do anything special? S2: No. S2: And after, we go to the airport. T: You went to the airport? S2: No, we go to the airport...[looks at the teacher confused]... Yes. T: You went to the airport? S2: Yes.</p> | <p><u>“DID SHE TALK WITH YOU?”</u> T: Where did you meet Britney Spears? T: Shopping? S1: Yeah... [laughter]... at the hotel, it was one star but ...at the beach... T: Really? S1: Yeah. She was performing at the beach. S2: She talk with you? S1: No. T: Did she talk with you? S1: No.</p> |
| Prompt | <p><u>“WE TOOK THE AIRPLANE”</u></p> | <p><u>“WHAT DID YOU DO?”</u> T: Questions!</p> |

| | |
|---|--|
| T: In the airplane you ate McDo? [Class laughs.] | S1: What do you eat at McDonald's? |
| S3: We bought the food and after that we take airplane. | T: What (gestures the need for the past tense)... |
| T: After that we... (pauses, then gestures the need for the past tense)... "take" in the past tense | S1: What did you eat? |
| S3: Took. | |
| T: Good. | |

Although training in immediate recall is advisable, unfortunately, no such training was possible in this study. This was because the training would need to be done the week before the intervention began, which would cut into the activities scheduled for that lesson, making the teachers uneasy about the potential disruption it could cause as well as about giving up more of their teaching time which, they felt, was already limited. However, immediately prior to the intervention, the researcher modelled the tool for each of the classes by role-playing an interaction between her and each of the teachers, during which two examples with the red card were provided. The first example was given after a pre-planned miscommunication about one of the activities the teacher did on the weekend (with the focus on the meaning, not form) and the other occurred following the explanation of the task. Questions in relation to how the tool worked were also handled at this time.

Following Mackey (2006), the lesson reflection sheet was designed to elicit the participants' impressions about the learning they did in class and to serve as an additional check of the noticing data obtained via the immediate recall. In these reflections, the learners were asked to complete a table by recording: (1) the language forms or concepts (including grammar, vocabulary, and pronunciation) they noticed in a given lesson and (2) whether these items were new to them. The amount of space provided for writing was equal for each linguistic form and the numbered points facilitated reporting of individual

items. The learners were given between 5-10 minutes at the end of each lesson to complete the table, which they could do in either English or French.

3.5.2 L2 development

To determine the participants' knowledge of the target features, two tasks were administered before, immediately after, and eight weeks following the instructional intervention (Appendix C). The tasks were developed for the purpose of this study and in consultation with the participating teachers to ensure that the material was appropriate (in terms of vocabulary) to the students' level. The two tasks included a find-the-differences task and a picture description activity, which have been used extensively in the SLA research⁵³ to gather data on learner interactions in the classroom (e.g., Mackey, 1999; Mackey & Philp, 1998), input comprehension and comprehensibility (e.g., Gass & Varonis, 1994; Pica, 1991), and more recently, learner reactions to corrective feedback (e.g., Long *et al.*, 1998; Philp, 2003; Iwashita, 2003; Leeman, 2003; McDonough & Mackey, 2006). Prior to the intervention, both tasks had been piloted with a different class of the same proficiency level in the EAL context. The tasks were administered in the same order during the testing sessions, with the find-the-differences task completed before the picture description. Although there was no time restriction placed in which to complete each task, the two tasks were completed within an hour. All groups completed the tasks in the same manner and within the same time period.

The find-the-differences task was designed to elicit questions in the past. Working in pairs, the students received a written biography of a fictional character and were told that their accounts of the story differed in ten ways. Their task was to ask each other questions to identify the differences. Each time a question was asked, only the person asking it would need to write it down on a sheet provided and his/ her partner would then answer it. To ensure that an adequate number of questions was produced, the learners were told to ask a minimum of ten questions each. In addition to the written record kept by each

student, the conversations were also audio-recorded to counterbalance the situation in which learners asked more questions than they actually wrote down. Two versions of the biography were developed to counter the test-retest effect, with Version 1 administered during the pre- and delayed post tests, and Version 2, during the post-test. The two versions were similar in format and the number of differences to identify, but they differed in content: Version 1 was an account of Andrew Scott's biography and Version 2, was that of his wife, Julie Parker.

In the picture description activity, designed to elicit the simple past tense, the participants were given a cartoon strip depicting a series of events. Their task was to write a narrative of what happened to the people in the pictures at a said point in the past⁵⁴ (*yesterday, last week*). The time adverbial was thought to implicitly alert the learners to tell the story using the past. Ten context-appropriate verbs were provided with the purpose to have the learners include all the verbs, in any order, at least once in their stories. This would ensure some linguistic uniformity among the stories. Key words, which were judged as possibly new or problematic for the learners, were provided on the task sheet (e.g., *gun, stroller, pipe*). Two cartoon strips, each depicting a different situation, were used: the first strip (bank robbery) was employed in the pre- and delayed post-tests; the second strip (a child's city adventure) was used in the post-test. Of the 20-verb total, 4 reoccurred across the tests (*enter, tell, leave, and go*), 9 called for the regular past forms (*enter, point, demand, park, deposit, climb, cross, walk, stop*) and 7 for the irregular forms (*tell, leave, go, put, drive, meet, come*). The repeated verbs allowed us to systematically determine if the noticing of CF helped learners to improve on the verbs they saw from one test time to another. All the verbs were telic and depicted the *accomplishment* and *achievement* verb categories because these call for the use of the simple past and are acquired before the *activity* and *stative* verbs. Furthermore, previous research has shown that ESL learners from various L1

backgrounds tend to produce more telic (achievement, in particular) than atelic verbs (Bardovi-Harlig, 1998; Collins, 2007).

These tasks were chosen because they required that simultaneous focus on form and meaning was maintained. This is of special importance here because the intervention tasks were communicative and required learners to focus on the meaning and form of the message. Furthermore, Norris and Ortega (2000) called for research that does not use measures that “require the application of L2 rules in highly focused and discrete ways” (p. 483), which was the case for the vast majority of the 49 studies they investigated; these studies used measures that restricted the type of responses the participants produced, as a result favoring more explicit types of FFI.

3.5.3 Learner beliefs about CF

To uncover learner beliefs about corrective feedback, a two-part questionnaire was created (Appendix D). In Part 1, demographic information was gathered to establish an image of the participating learners. It included their name, gender, and linguistic background, which probed the participants’ mother tongue as well as the number of other languages they spoke. For each of the languages, they indicated: (1) where they learnt it (i.e., classroom, home, other), (2) the number of years they have been speaking it, and (3) on the scale of “poor” to “excellent”, how well they spoke, wrote, listened, and read in each. Part 2 of the questionnaire contained 40 statements dealing with various aspects of CF based on the theoretical and empirical findings in the CF literature (e.g., Horwitz, 1985; 1987; 1988; 1999; Schulz, 1996, 2001; Kartchava, 2006; Mohamed Hassan Mohamed, 2011). Specifically, these touched on expectations for feedback and its importance, as well as the timing, amount, mode, and the manner in which CF should be delivered. Opinions about the two corrective techniques of interest (recasts and prompts) to this research were also included. On the scale of 1 to 5, where “1” indicated strong disagreement and “5” strong agreement, the participants were asked to indicate the degree to which they

agreed with each statement. An example of how to complete the questionnaire was presented on the page preceding the statements. The entire questionnaire was drawn in French to facilitate its completion and to ensure that a picture not limited by issues of language comprehension emerged as a result. The questionnaire was completed by all the groups in Week 1 of the term and took about 20 minutes to finish. Prior to the administration of the questionnaire, the items were randomized using the online Random Sequence Generator.

3.5.4 Post-intervention interviews

To obtain the learner and teacher perspectives about the study, semi-structured interviews were held with the three teachers and 20 learners, drawn randomly from the nine classes. The interviews probed the participants to reflect on the study as a whole as well as to comment about the activities used, the “red card” (immediate recall), and the feedback supplied. While the teacher interviews were done one-on-one with the researcher, the conversations with the learners were conducted in groups of 2 or 3. The learners were allowed to provide answers in either English or French. The interviews were informal in nature and lasted between 5-10 minutes each. They were audio-recorded and transcribed. All the interviews were conducted in Week 13 after the entire investigation was completed and questions related to feedback could be asked freely. The quotes from the interviews with the learners provided later in the thesis were either taken verbatim (in English) or were translated from French to ease the reading.

3.5.5 Procedure

Figure 3 depicts the data collection procedure adhered to in this experiment. In the first week of classes (Week 1), all the participants completed the beliefs questionnaire. Then, in Week 4, immediately prior to the instructional intervention, the pre-test was conducted. In the remaining two hours of the lesson (in Week 4), the students engaged in the first activity

designed for the study (i.e., Alibi). The immediate recall was executed during the activity, followed by the lesson reflection at the end. The lesson in Week 5 began with the second activity (i.e., Accidents), which lasted two hours. Again, the immediate recall was administered and the learners were asked to reflect on the lesson by its end. In the last hour of the class, the post-test was held. Eight weeks later (Week 13), the delayed post-test was administered.

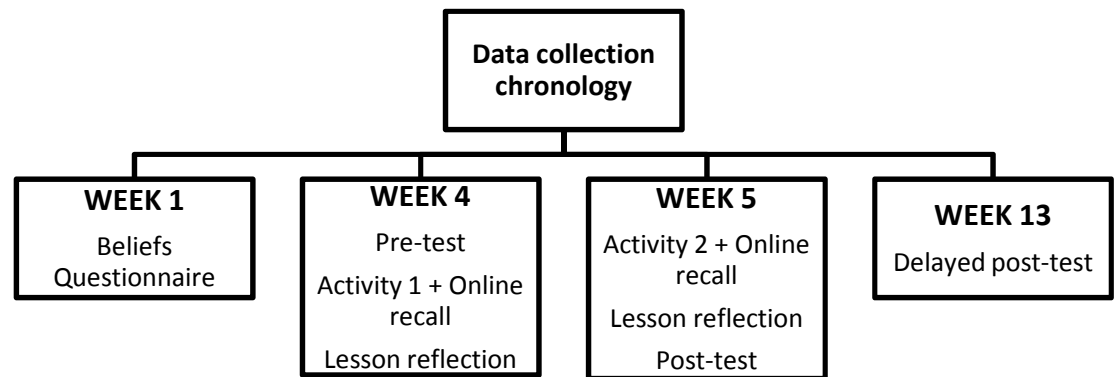


Figure 3: Data collection procedure

3.6 Data analysis

With the premise to measure what feedback language learners are able to notice in the classroom, to find out if this noticing leads to language learning, to ascertain whether noticing of feedback is mediated by learner beliefs about CF, and to determine whether or not beliefs guide learning, quantitative as well as qualitative analyses were used to analyze the collected data.

3.6.1 Coding of noticing

The immediate protocols were analyzed in two ways. First, the reports were examined to determine the types of noticing the participants engaged in. Then, percentage noticing scores were calculated for each learner and CF condition. The first analysis yielded a variety of ways in which the participants expressed their noticing; these were categorized into three types of noticing evidence: (1) detection of CF and/or the correct form, (2) exact repetition, and (3) noticing of help. When the learners referred to context or failed to provide a response on the recall measure, it was deemed that CF was not noticed and such reports were categorized under the “no noticing” category. Table 12 outlines the noticing categories yielded by the data. To ensure that the coding was representative of the data, an independent rater analyzed and categorized part of the data. Inter-rater reliability for these data was 93% based on simple agreement. Disagreements in data coding were solved through discussions between the raters. It is important to note that because the current study did not aim to test different levels of noticing, this analysis was done to understand the types of noticing the participants achieved in general, not to attribute more importance to one category over the other.

The percentage noticing scores were calculated by dividing the total number of times a learner reported noticing by the total number of recall instances provided. These were then converted into percentages by multiplying the resulting score by 100. Such analysis was carried out for each target (past tense and questions) and feedback condition. The scores were used to determine the differential noticing of recasts, prompts, and a mixture of the two. To see if there is a relationship between the learners’ beliefs and their overall noticing of CF, Pearson analyses of correlation between each learner’s factor and noticing scores were conducted.

Table 12
Evidence of noticing

| Noticing | Description | Example |
|--|--|--|
| Detection of CF and/or correct form | Awareness of error or what the correct form is/ should be and thought processes are made explicit | <i>“fall, mistake”; “mistake”</i> <i>Fanny has difficulty with the verb tense.</i> <i>The past of “throw” is “threw”.</i> |
| | Uptake implying some sort of analysis either by isolating the correction received or by incorporating the correct form | <i>T: Why did you...?</i> <i>Response: Why did you <u>fall down on your horse</u>?</i> |
| Exact repetition | Word for word repetition of T’s reformulation, be it complete or reduced | <i>T: What did you eat?</i> <i>Response: What did you eat at McDo?</i> |
| Noticing of help | Explicit mention that T was trying to help without specifying the nature of the help | <i>The teacher helps us learn when he corrects.</i> <i>It’s a good thing to (reprendre) the person when he does error.</i> <i>It’s good that the T insists for the student to pronounce the question well.</i> |
| No noticing | Talk of content No answer (line left blank) | <i>I am thinking about sushi.</i> <i>He is a liar.</i> |

The lesson reflection sheets were analyzed qualitatively for additional evidence of noticing. Even though many participants either submitted incomplete sheets or did not hand in their reflections at all, ad hoc analysis of the completed reflections was carried out and the findings supported the noticing that had been reported.

3.6.2 Coding of tests

To measure changes in the targetlike usage of the past tense, instances in which the supplied ten verb forms were correctly used in obligatory contexts were counted. If the same verb was used more than once within a narrative, only its initial use was counted to offset overuse. The total number of correct

verbs supplied on each test was divided by the maximum score of 10. Two types of analysis were done to measure learners' ability to form questions. First, each learner was assessed for a developmental stage according to Pienemann and Johnston's (1987) scale for question development. Following the conservative emergence criterion used in many acquisition studies to determine learners' developmental stage (Spada & Lightbown, 1993; Mackey & Philp, 1998; Philp, 2003; Mackey 2006), production of two distinct questions constituted the learners' highest level on the scale. However, because almost no change in stage from one test to another was noted (the majority of participants stayed at Stage 3), a decision to assess accuracy scores was made. To do so, the number of correctly formed questions was divided by the total number of questions supplied by individual learners. This was done to account for the different number of questions produced by each learner⁵⁵. To ensure accuracy in the scoring, another rater scored a representative portion from each of the tests; the inter-rater reliability was 98% based on simple agreement. A mixed-design two-way ANOVA with repeated measures was used to assess differences in accuracy scores between the recast group, the prompt group, the mixed group and the control group across three testing times. Separate ANOVAs were conducted for the questions and simple past tasks. All tests were two-sided and the significance level was set at .05.

The relationship between noticing of CF and learning of the target features was investigated quantitatively and qualitatively. The quantitative inquiry involved regression analysis of the groups' post-test scores for each of the targets with the overall noticing scores for the recasts, prompts, and mixed groups. Qualitatively, individual accuracy scores on the three tests for each of the grammatical features were compared with the learners' overall noticing scores.

3.6.3 Learner beliefs

To determine what language learners believe about CF, their responses on the Part 2 of the beliefs questionnaire were subjected to a factor analysis, a statistical technique used to examine interrelationships among original variables. The analysis was conducted to examine possible common themes that would emerge in the participants' beliefs as a group (Field, 2005). An exploratory factor analysis was chosen because there is currently no established theory as to what and how many factors underlie ESL learners' beliefs about CF (DeCoster, 1998). There are two principal techniques to conduct factor analysis: principal component analysis (PCA) and factor analysis (FA). While PCA transforms original variables into a smaller set of linear combinations, using all the variance in the variables, FA estimates factors using a mathematical model, where only the shared variance is examined (Pallant, 2007). Although PCA and FA often produce similar results and are used interchangeably to refer to an analysis of factors, the former is seen by some as "psychometrically sound and simpler mathematically" (Pallant, 2007, p. 180) for it avoids some of the potential problems with "factor indeterminacy" associated with factor analysis (Stevens, 1996, p. 363). Because the aim here was to come up with "an empirical summary of the data set" (Tabachnick & Fidell, 2007, p. 635), PCA was the technique of choice.

Two main issues were considered in assessing the suitability of the data for factor analysis: (1) sample size and (2) the strength of the relationship among the variables. There is little agreement on how large a sample should be to run factor analysis, but, generally, a bigger sample is considered to be better because the produced correlation coefficients among variables are more reliable and the obtained factors are easier to generalize from one sample to another (Pallant, 2007). Tabachnick and Fidell (2007) consider samples of 150 cases or less as small and 300 cases or more as "comforting" to run a factor analysis (p. 613). The current sample included 197 cases and was deemed adequate for the

analysis. To ensure the strength of the intercorrelations among the items, Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were carried out. For the factor analysis to be appropriate, Bartlett's Test of Sphericity should be significant ($p < .05$) and the KMO index, which ranges from 0 to 1, yield the minimum value of .6 (Pallant, 2007; Tabachnick & Fidell, 2007). The KMO index for these data was .82, and the Bartlett's Test of Sphericity emerged as significant ($\chi^2 = 2968.542, p = .000$), confirming the factorability of the data.

In order to determine to what extent the confirmed factors distinguish between learners in all conditions, average scores for each learner were generated to represent values for the identified beliefs and to be used in subsequent analyses (Pett, Lackey, & Sullivan, 2003) of possible relationships between beliefs and learning as well as beliefs and noticing. It is important to note that while the values obtained through the use of a questionnaire are ordinal in nature and logically cannot be subjected to mathematical manipulations, "such manipulation has become accepted because the power of the information obtained is considered to far outweigh the costs associated with relaxing these technicalities" (Rea & Parker, 2005, p. 108). It is, then, recommended to calculate the arithmetic mean to determine the central tendency of the data for each respondent and/ or each scale question. Using the mean instead of the median, which is considered to be the appropriate measure of central tendency for ordinal data, implies that (1) the respondents understand the meaning of each category in the scale, and (2) an equal distance between each category is presumed; these conditions were assumed true in this study. Hence, because in the beliefs questionnaire utilized in this study each category on the scale represented a numerical value (in this case, "1" indicated strong disagreement and "5" strong agreement) it was possible to calculate arithmetic means for each learner and each item. This process allowed for the identification of the impact of beliefs on the noticeability and effectiveness of CF.

Chapter 4: Results

The purpose of this chapter is to report the results of the analysis undertaken to investigate whether learners notice and benefit from the feedback provided in the classroom, to determine if this noticing predicts learning outcomes, to ascertain learner beliefs about corrective feedback in order to establish whether these beliefs guide learners' noticing and learning. Specifically, the chapter details the findings as they relate to each of the questions investigated in this research:

1. Does provision of CF promote noticing and learning of L2 norms in the L2 classroom?
2. Is there a relationship between learners' reports of noticing L2 norms and their subsequent L2 learning?
3. Do learner beliefs about CF mediate their noticing and learning of L2 norms?

4.1 Noticing of CF and L2 development

Two levels of analysis were undertaken to answer the first question addressed by the study – *Does provision of CF promote noticing and learning of L2 norms in the L2 classroom?* First, the participants' immediate recall reports were analyzed for instances of noticing and then, the accuracy scores on the simple past and questions measures were evaluated to determine learning outcomes.

4.1.1 Noticing of CF

To determine if the provision of CF promotes noticing of form, the experimental groups' percentage noticing scores were computed and compared. Table 13 presents the descriptive statistics for the reported noticing. The results indicate that while the learners in all the groups were able to notice the feedback provided, the learners in both the Prompt and Mixed groups were able to notice the teacher's corrective intent more than the learners in the Recast group.

Table 13

Reported noticing means across three groups (maximum score: 100%)

| Group | <i>n</i> | <i>M (%)</i> | <i>SD</i> |
|--------|----------|--------------|-----------|
| Recast | 31 | 6.70 | 6.57 |
| Prompt | 25 | 22.00 | 21.77 |
| Mixed | 23 | 29.28 | 24.07 |
| Total | 79 | 18.11 | 20.47 |

To establish whether the differences in the groups' noticing rates were significant, a one-way analysis of variance (ANOVA) was conducted and showed a statistically significant group difference, $F(2, 76) = 12.6, p = .01$. Despite reaching statistical significance, the effect size measuring the difference in mean scores between the groups was quite small⁵⁶ (eta squared = .025). Post-hoc Tukey pair-wise comparisons indicated that the Recast group reported significantly less noticing overall than the Prompt ($p = .006$) and Mixed ($p < .001$) groups. The difference between the Prompt and Mixed groups was not statistically significant ($p = .214$). These differences are illustrated in Figure 4.

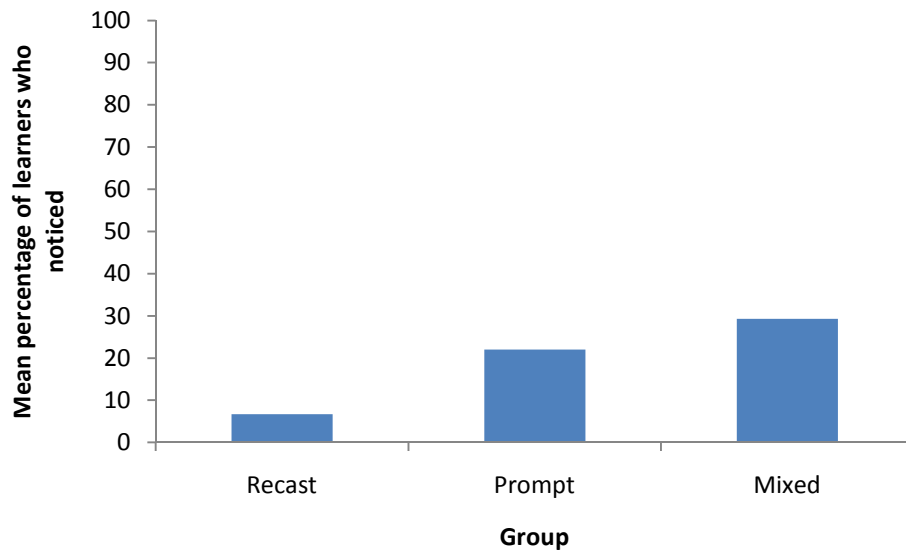


Figure 4: Reported noticing means across three experimental groups

To determine which of the grammatical features was noticed more, a paired-samples t-test was conducted on the noticing scores per target. Table 14 presents the descriptive statistics for the total noticing across the two targets. There was a statistically significant difference between the past tense noticing scores and the questions noticing scores, $t(78) = 3.07$, $p = .003$ (two-tailed), with the CF on past tense errors being noticed more than that on questions. The mean difference in the noticing scores was .47 with a 95% confidence interval ranging from .16 to .77. The eta squared statistic (.11) indicated a moderate⁵⁷ effect size, suggesting a modest difference between the amount of feedback noticed in response to errors with the past tense and with questions in the past. This difference is illustrated in Figure 5.

Table 14

Reported noticing means across grammatical targets (maximum score: 100%)

| Target | <i>M</i> (%) | <i>SD</i> |
|------------|--------------|-----------|
| Past tense | 10.11 | 11.02 |
| Questions | 8.00 | 11.38 |

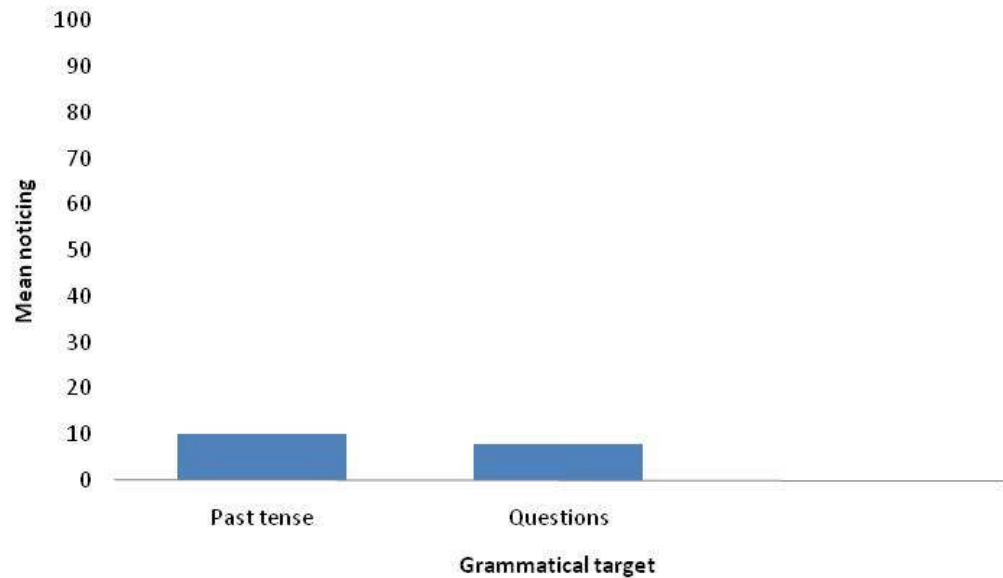


Figure 5: Reported noticing means across grammatical targets

To determine which of the grammatical features was noticed more across groups, the groups' noticing scores per target were computed and compared. The descriptive statistics for the noticing per grammatical feature across three groups are presented in Table 15. Overall, there were more learners who noticed feedback on errors with the simple past ($n = 121$) than those who noticed feedback on questions ($n = 84$). In terms of group, the Prompt and Mixed groups noticed more feedback on errors with the simple past than with questions. The Recast group reported the least amount of noticing for the two target features.

For the past tense errors, the learners in the Prompt ($n = 35$) and Mixed ($n = 72$) conditions noticed more feedback than did their counterparts in the Recast group ($n = 14$). Interestingly, there was an equal number of recasts ($n = 36$) and prompts ($n = 36$) noticed in the Mixed group, possibly suggesting that when recasts and prompts are provided within the same lesson, learners may be more likely to notice recasts than when recasts are the only feedback method utilized, as was the case with the Recast group.

While the noticing results for questions were similar to those for the past in that the learners in the Mixed ($n = 41$) and Prompt ($n = 31$) groups reported more noticing of this feature than did those in the Recast group ($n = 12$), the number of recasts noticed in the Mixed group was proportionally higher (17%) than that of prompts, likely signifying that the presence of prompts may have made the corrective intent of recasts more salient in the classroom.

Table 15

CF immediate recall instances and learners' reports of noticing

| Group | Immediate recall instances | | Noticing (maximum score : 100%) | | | | | |
|----------------|----------------------------|-----------|------------------------------------|--------------|-----------|-----------|--------------|-----------|
| | Simple Past | Questions | Simple Past | | | Questions | | |
| | <i>n</i> | <i>n</i> | <i>n</i> | <i>M (%)</i> | <i>SD</i> | <i>n</i> | <i>M (%)</i> | <i>SD</i> |
| Recast | 13 | 12 | 14 | 3.47 | 4.37 | 12 | 3.22 | 4.65 |
| Prompt | 12 | 12 | 35 | 11.67 | 11.78 | 31 | 10.33 | 11.85 |
| Mixed - Recast | 10 | 8 | 36 | 17.39 | 11.52 | 24 | 11.88 | 14.90 |
| Mixed - Prompt | 8 | 7 | 36 | | | 17 | | |
| Total | 43 | 39 | 121 | 10.11 | 11.02 | 84 | 8.00 | 11.38 |

Separate analyses of variance per morphosyntactic feature were conducted to explore whether the observed differences in the targets were statistically significant across the experimental groups. There was a statistically significant difference in the noticing of the two morphosyntactic features for the three groups, with $F(2, 76) = 23.8, p = .01$ for the past errors, and $F(2, 76) = 6.08, p = .004$ for the errors with questions. In terms of the effect size, the actual difference in mean scores between the groups was large for questions (eta squared = .14) and even larger for the simple past (eta squared = .39), reiterating the strength of the found difference. Post-hoc Tukey HSD comparisons indicated that for the past tense, the Recast group reported significantly less noticing of CF than did the Prompt ($p = .039$) and Mixed ($p < .001$) groups. For questions, the Recast group reported significantly less

noticing of CF than did the Mixed group ($p = .003$), but the Prompt group ($p = .090$) did not differ significantly from either the Recast or the Mixed group. These differences are illustrated in Figure 6.

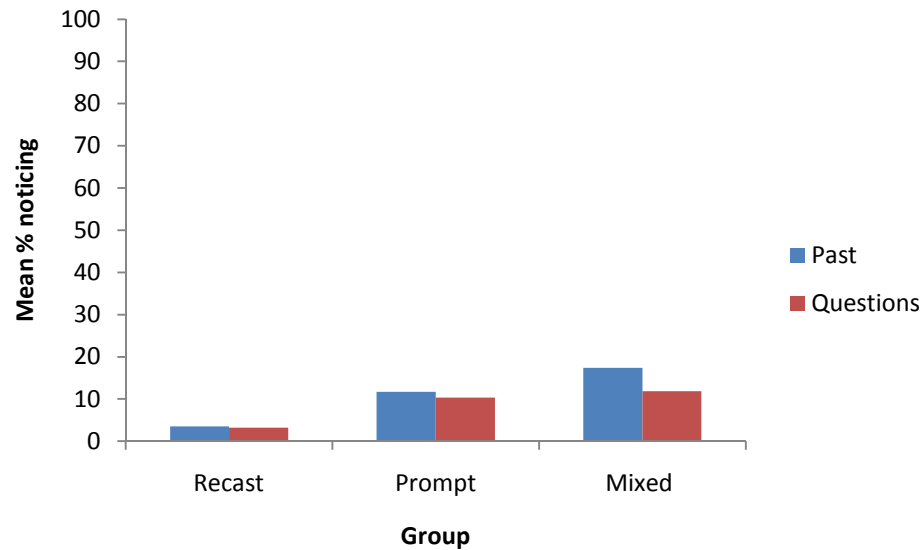


Figure 6: Mean percentage target noticing across groups

In sum, the results showed differences in reported noticing across the groups. Specifically, the Recast group reported less noticing of CF for past tense than did the Prompt and Mixed groups. The Recast group, also, reported less noticing of CF for questions than did the Mixed group. In terms of the grammatical target, past tense was noticed significantly more than questions.

4.1.2 L2 development

To determine how the provision of CF promoted learning of form across the different CF conditions, the groups' accuracy means were computed and compared. Table 16 presents the descriptive statistics for the pre- and post-test scores on past tense and questions. It is important to note that even though three tests (pre-, immediate post-, and delayed post- tests) were conducted, the results on the delayed post-test had to be discarded because after the intervention the

instructor who taught the Recast and Control groups between the post-test and the delayed test (Albert) explicitly taught and had his students practise the two targets of interest. In light of this, it was decided to limit the investigation of the differences in accuracy levels between the groups to those in Time 1 and Time 2, for both features.

As Table 16 shows, the post-test scores for past tense were higher than those for questions overall. In terms of group, while Prompt and Mixed groups' test scores improved for both features, the scores for the Recast group decreased for the two targets.

Table 16

Accuracy means for the past tense and questions test scores by group (maximum score: 100%)

| <i>Group</i> | <i>n</i> | Past tense | | | | Questions | | | |
|--------------|----------|-------------------|-----------|--------------|-----------|------------------|-----------|--------------|-----------|
| | | Pre-test | | Post-test | | Pre-test | | Post-test | |
| | | <i>M (%)</i> | <i>SD</i> | <i>M (%)</i> | <i>SD</i> | <i>M (%)</i> | <i>SD</i> | <i>M (%)</i> | <i>SD</i> |
| Recast | 31 | 22.90 | 31.00 | 22.26 | 27.53 | 15.40 | 19.59 | 14.50 | 18.01 |
| Prompt | 25 | 32.80 | 36.12 | 40.40 | 37.58 | 11.96 | 19.18 | 19.77 | 26.33 |
| Mixed | 23 | 24.78 | 26.95 | 34.34 | 34.62 | 12.43 | 14.46 | 14.56 | 24.71 |
| Control | 20 | 19.00 | 29.72 | 17.50 | 25.52 | 12.19 | 20.03 | 13.78 | 19.26 |

To determine which of the grammatical features was learned the most, a paired-samples t-test was conducted on the post-test scores per target. Table 17 presents the descriptive statistics for the accuracy scores across the two targets. There was a statistically significant difference between the post-test scores on past tense and those for questions, $t(98) = 3.82$, $p = .006$ (two-tailed), with the past tense scores being higher than those for questions. The mean difference in the scores was 12.99 with a 95% confidence interval ranging from 6.24 to 19.7. The eta squared statistic (.13) indicated a moderate effect size, suggesting a modest difference between the past tense and questions test scores. This difference is illustrated in Figure 7.

Table 17

Mean percentage accuracy scores across grammatical targets (maximum score: 100%)

| Target | <i>M</i> (%) | <i>SD</i> |
|------------|--------------|-----------|
| Past tense | 28.70 | 22.00 |
| Questions | 15.70 | 32.47 |

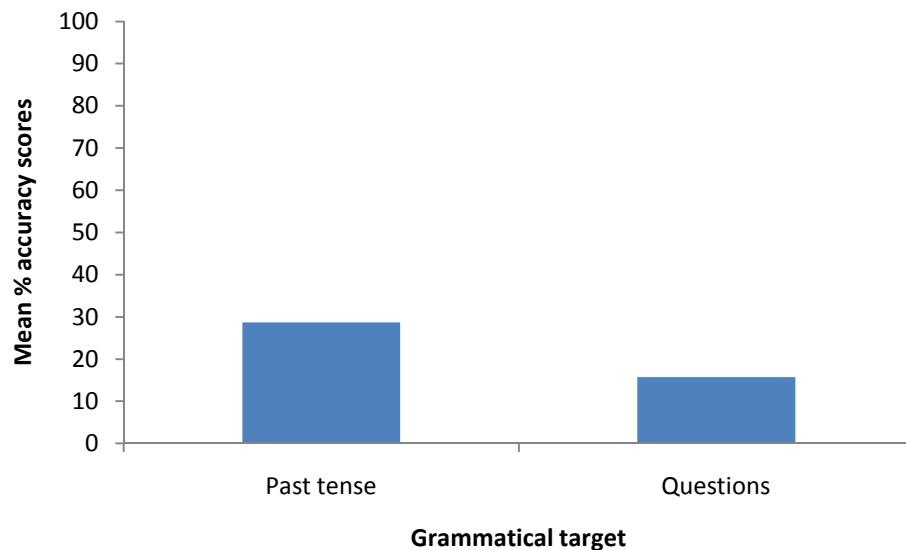


Figure 7: Mean percentage accuracy scores across grammatical targets

To assess the impact of intervention on the participants' scores in each of the four groups on the past tense and questions tests across two time periods, a mixed between-within subjects analyses of variance (ANOVA) was conducted. For the Past tense, the difference between the four groups at the pre-test was not significant, $F(3, 95) = .811, p = .49$, suggesting that the groups were homogeneous at the onset of the intervention. There was no main effect for group, $F(3, 95) = 1.558, p = .205$, partial eta squared = .047, or for time, F

(2, 190) = 4.438, $p = .10$, partial eta squared = .045. There was no significant Group x Time interaction effect, $F(6, 190) = 4.342$, $p = .104$, partial eta squared = .121. Figure 8 illustrates past tense accuracy means for the pre-test and post-test.

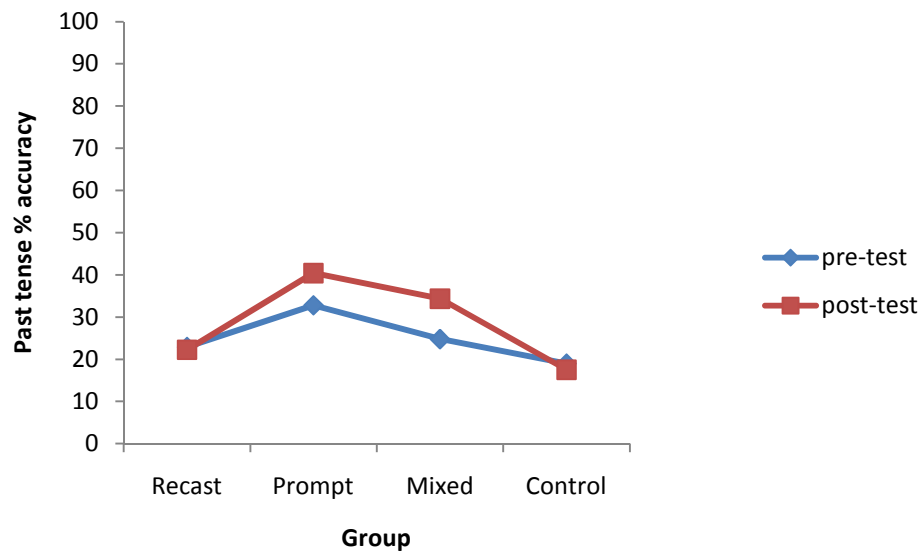


Figure 8: Past tense accuracy means across test periods

For questions, the four groups were also homogeneous at the pre-test, $F(3, 95) = .217$, $p = .88$. There was no main effect for group, $F(3, 95) = .530$, $p = .663$, partial eta squared = .016, or time, $F(2, 190) = 1.120$, $p = .329$, partial eta squared = .012, and no significant Group x Time interaction effect, $F(6, 190) = 2.073$, $p = .058$, partial eta squared = .061 (Figure 9).

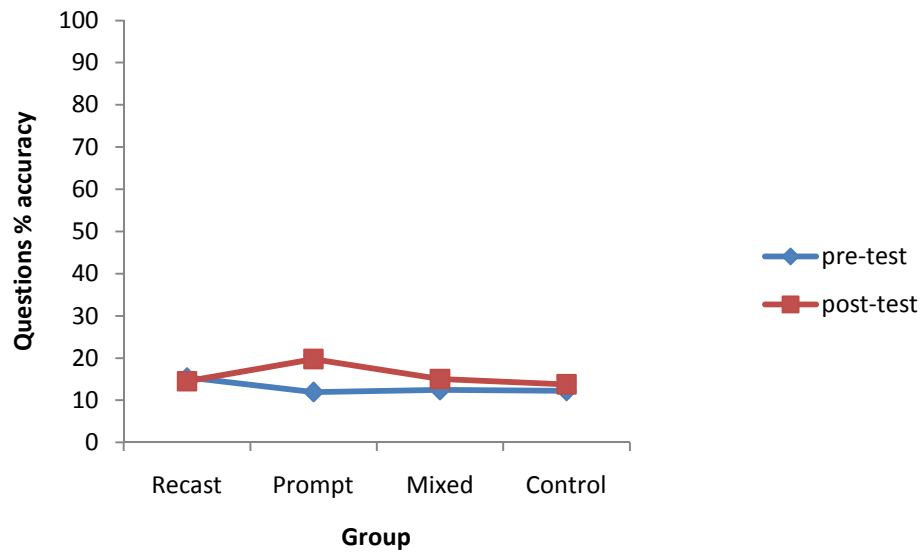


Figure 9: Questions accuracy means across test periods

To summarize, the overall accuracy levels for the past tense were statistically more significant than those for questions. In terms of group, however, there were no differences for either of the targets.

4.2 Relationship between noticing and test scores

To answer the second research question - *Is there a relationship between learners' reports of noticing L2 norms and their subsequent L2 learning?* – using gain scores (i.e., pre-test scores were subtracted from the post-test scores), both statistical and qualitative analyses were conducted. For the statistical analysis, the three experimental groups' gain scores on the simple past and questions measures were correlated with the overall and per target noticing scores to determine a possible relationship between the two. The regressions were run both together and separately for the three groups. The qualitative analysis, in turn, investigated relationship patterns between gain scores and reported noticing for individual students. Such analysis was deemed necessary because language learning is highly individual and learners may

approach the task differently, with some needing to notice in order to progress and others learning despite of noticing.

4.2.1 Statistical analysis

A standard multiple regression was used to determine whether the overall noticing scores would predict the amount of learning achieved for each of the features. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity. For the past tense, the total variance explained by the model as a whole was 6.5%, $R^2 = .065$, $F(1, 77) = 5.36$, $p < .05$, suggesting a weak positive correlation between noticing and gain scores for the past tense (Figure 10). Only the Recast group measures were statistically significant and explained an additional 22% of the variance in the past tense gain scores, $R^2 = .22$, $F(1, 29) = 8.22$, $p < .05$ (Figure 11). This implies that the noticing of recasts in the classroom contributed 22% to the increase in gain scores for past tense.

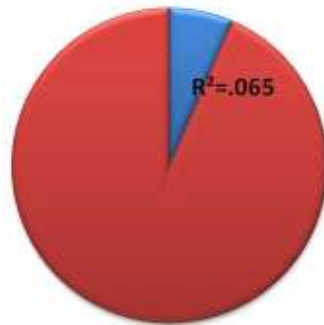


Figure 10: Total variance explained by reported noticing and past tense gain scores

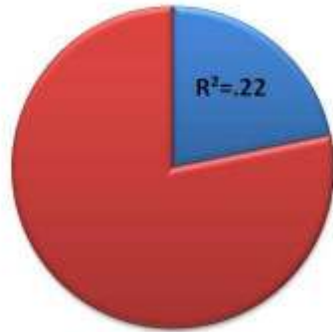


Figure 11: Total variance explained in the past tense gain scores due to noticing of recasts

For questions, the total variance did not explain the model as a whole, suggesting no correlation between noticing and the questions gain scores. Furthermore, noticing of CF techniques did not contribute to the gains in questions.

In sum, there is a minimal relationship between the noticing scores and past tense gain scores. Such relationship, however, was not found between the reported noticing and gain scores for questions. In terms of CF technique, recasts that target errors in the past and whose corrective intent is noticed were found to contribute to the gains on the past tense measure.

4.2.2 Qualitative analysis

A qualitative analysis was undertaken to determine a possible relationship between noticing and gain scores for individual learners. Based on their reported noticing scores, the experimental groups' learners ($n = 79$) were first divided into two groups: (1) noticing and (2) no noticing. Then, their gain scores for each of the two grammatical targets (past tense and questions) were compared and classified across the "increased", "decreased", or "no change" categories. The magnitude of the change ranged between 5% and above 50%, with groupings of 10%, 20%, 30%, 40%, and above 50%. The first grouping included cases with the minimal change in scores of 5% up to and including 10%. The scores in the second grouping ranged from 10.1% to 20%. The range

in the third grouping was 20.1% to 30%. For the fourth grouping, scores between 30.1% and 40% were included. The final grouping (> 50%) encompassed all the cases where the change in scores was 40.1% to above 50%. These were bulked together because of the small number of representative cases ($n = 6$). In particular, in the “noticing” group, there was one case where gain scores increased by 50% on past tense, by 70% on questions, and by 90% on past tense; there was one instance where a score decreased by 43% on questions. In the “no noticing” group, one learner’s gain score increased by 50% but another learner’s score decreased by 60% on questions. Finally, it is important to note that because the control group had no opportunity to report noticing, it was excluded from this analysis.

Table 18

Noticing reports across the “noticing” and “no noticing” groups

| <i>Group</i> | <i>n</i> | <i>Noticing</i> | <i>No noticing</i> |
|--------------|----------|-----------------|--------------------|
| Recast | 31 | 20 | 11 |
| Prompt | 25 | 17 | 8 |
| Mixed | 23 | 22 | 1 |
| Total | 79 | 59 | 20 |

As Table 18 illustrates, there was a total of 59 learners in the “noticing” and 20 learners in “no noticing” groups. In terms of group, all but one learner reported noticing in the Mixed condition ($n = 22$; 99.6%). Proportionally more people noticed corrections to form in the Prompt group (68%) than in the Recast group (64.52%). The situation was different in the “no noticing” group, where the highest number of people who did not report noticing was in the Recast group ($n = 11$), followed by 8 people in the Prompt condition and one person in the Mixed group.

Table 19 illustrates the combined gain scores on the past tense and questions measures across the “noticing” and “no noticing” groups and three “change” categories. It is important to note that that because these results are presented for the two features together (past tense and questions), the total n per group has been doubled. That is, in the case when 20 learners reported noticing, the total n per group has been presented as 40 to account for the combined cases of increase, decrease, and no change in the gain scores. Hence, the “noticing” group had 50 instances of increased scores, 28 of decreased results, and 40 cases when the gains equalled to zero. In the “no noticing” group, the gains were found in 16 cases; there were 12 instances when the results on the post-test were lower from those on the pre-test, and 12 cases when the results did not change.

Table 19

Combined gain scores totals across groups and categories

| <i>Category</i> | <i>Noticing</i> | <i>No noticing</i> |
|-----------------|-----------------|--------------------|
| Increased | 50 | 16 |
| Decreased | 28 | 12 |
| No change | 40 | 12 |
| Total | 118 | 40 |

The data presented in Table 19 is split further in Table 20 to account for the gain scores per target across the “noticing” and “no noticing” groups, change categories, and CF conditions. Among the learners who reported noticing of feedback, 28 showed increased gains for the past tense and 22 for questions. For the past tense, more learners in the Mixed group ($n = 13$) showed improvement than those in the Prompt ($n = 8$) and Recast ($n = 7$) groups. However, the numbers were equally split between the Mixed ($n = 8$) and Prompt ($n = 8$) groups on the questions measure; they were slightly lower for

the Recast group ($n = 6$). There were more “noticing” learners with decreased gain scores on questions ($n = 17$) than on past tense ($n = 11$), with the most learners being in the Recast condition (Q: 8; P: 5), followed by the Mixed (Q: 7; P: 3) and the Prompt (Q: 2; P: 3) groups. The number of learners who reported noticing but showed no change in their gain scores was surprisingly the same for past tense ($n = 20$) and questions ($n = 20$). Interestingly, the numbers were similar across the CF conditions, with slightly more learners showing no change in scores for past tense in the Mixed ($n = 8$) and Recast ($n = 8$) groups compared to those for questions (Recast: 6; Mixed: 7; Prompt: 7).

In the “no noticing” group, there was an equal number of Recast learners whose scores increased from Time 1 to Time 2 on the two targets of interest ($n = 5$), but only one learner showed gains with past tense in the Mixed group, and 5 Prompt learners improved on the questions measure. The number of “no noticing” learners whose scores decreased was the same for each of the grammatical targets (Q: 6; P: 6). While there was an equal split between the Recast ($n = 3$) and Prompt ($n = 3$) learners on the past measure, for questions, there were 3 Recast, 2 Prompt and one Mixed learners whose scores decreased. There were more learners whose scores did not change for past tense ($n = 8$) than for questions ($n = 4$). Among them, more Prompt learners maintained the same scores for past tense ($n = 5$) than for questions ($n = 1$), but the number was the same for each target in the Recast group (P: 3; Q: 3). None of the Mixed group students, however, were part of this category.

Table 20

Gain scores totals per target across groups, categories, and CF conditions

| <i>Group</i> | <i>Target</i> | <i>n</i> | <i>Change</i> | <i>CF condition</i> | | |
|--------------|---------------|----------|---------------|---------------------|--------|-------|
| | | | | Recast | Prompt | Mixed |
| Noticing | Past | 28 | Increased | 7 | 8 | 13 |
| | | 11 | Decreased | 5 | 3 | 3 |
| | | 20 | No change | 8 | 4 | 8 |
| | Qs | 22 | Increased | 6 | 8 | 8 |
| | | 17 | Decreased | 8 | 2 | 7 |
| | | 20 | No change | 6 | 7 | 7 |
| No noticing | Past | 6 | Increased | 5 | 0 | 1 |
| | | 6 | Decreased | 3 | 3 | 0 |
| | | 8 | No change | 3 | 5 | 0 |
| | Qs | 10 | Increased | 5 | 5 | 0 |
| | | 6 | Decreased | 3 | 2 | 1 |
| | | 4 | No change | 3 | 1 | 0 |

As for the range of change (Table 21), among the learners who reported noticing, the average increase in gain scores for both grammatical targets was 21.84% ($n = 50$), but the average decrease equalled to 22.5% ($n = 28$). In the “no noticing” group, the average increase in gains amounted to 21.16% ($n = 16$), with the decrease averaging at 27.5% ($n = 12$).

Table 21

Range of change for combined gain scores totals across groups and categories

| <i>Group</i> | <i>n</i> | <i>Category</i> | Range of change | | | | | Avg. |
|--------------|----------|-----------------|-----------------|-----|-----|-----|-------|---------------|
| | | | 10% | 20% | 30% | 40% | > 50% | |
| Noticing | 50 | Increased | 17 | 19 | 5 | 6 | 3 | 21.84% |
| | 28 | Decreased | 9 | 7 | 9 | 2 | 1 | 22.5% |
| No noticing | 16 | Increased | 4 | 8 | 2 | 1 | 1 | 21.16% |
| | 12 | Decreased | 4 | 1 | 2 | 4 | 1 | 27.5% |

The “increased” totals reported in Table 21 are divided by target and CF condition in Table 22. The “decreased” data are presented in Table 23. For the learners who reported noticing, the average increase in gain scores for the past tense (21.4%) was similar to that for questions (22.27%). In terms of CF condition, the Mixed and Prompt groups appeared to have higher gain averages than the Recast group overall. On the past tense, the Prompt group (25%) had higher average gains than the Mixed (20.8%) and Recast (18.6%) groups. The Mixed group’s average on questions, however, was the highest among the groups (26.25%), followed by the Prompt (21.25%) and Recast (18.3%) groups.

Interestingly, the “decreased” averages were also similar for the two targets (past: 22.7%; questions: 22.35%). However, the three CF conditions appeared to yield similar averages for the past tense, with the Prompts and Mixed groups scoring at 23.3% and Recast group averaging at 22%. For questions, the highest decrease average was in the Recast group, closely followed by the Mixed condition (22.86%); the lowest decrease average was in the Prompt group (10%).

The average increase among the learners who did not report noticing of CF (i.e., the “no noticing” group) was higher for questions (24%) than for past (18.3%) overall. The Recast group, in particular, earned the highest average gains for questions (26%), followed by the Prompts (22%). No increases in gains were noted for the Mixed group. For the past tense, the average gains for

the Mixed group (20%) were slightly larger than those for the Recast condition (18%), but no increases for the Prompt group were recorded.

The “decreased” averages were much higher for the past tense (35%) than for questions (20%) in the “no noticing” group. In terms of CF condition, the average decrease for the past tense was higher in the Recast group (40%) than in the Prompt group (30%); no decrease was noted in the Mixed group. For questions, however, the highest decrease average was in the Mixed group (30%), followed by the Prompt (25%) and Recast (13.3%) groups.

Table 22

“Increased” gain scores totals across groups, categories, targets and CF conditions

| Group | Target | CF condition | Increased – range of change | | | | | Avg. | |
|--------------------|--------------------|--------------|-----------------------------|-----------|-----------|----------|----------|---------------|---------------|
| | | | 10% | 20% | 30% | 40% | > 50% | | |
| Noticing | Past | Recast | 3 | 3 | 0 | 1 | 0 | 18.6% | |
| | | Prompt | 3 | 2 | 1 | 0 | 2 | 25.0% | |
| | | Mixed | 6 | 3 | 1 | 3 | 0 | 20.8% | |
| | | <i>Total</i> | <i>12</i> | <i>8</i> | <i>2</i> | <i>4</i> | <i>2</i> | <i>21.4%</i> | |
| | Qs | Recast | 2 | 3 | 1 | 0 | 0 | 18.3% | |
| | | Prompt | 2 | 4 | 1 | 1 | 0 | 21.25% | |
| | | Mixed | 1 | 4 | 1 | 1 | 1 | 26.25% | |
| | | <i>Total</i> | <i>5</i> | <i>11</i> | <i>3</i> | <i>2</i> | <i>1</i> | <i>22.27%</i> | |
| | Grand Total | | | 17 | 19 | 5 | 6 | 3 | 21.84% |
| | No noticing | Past | Recast | 2 | 2 | 1 | 0 | 0 | 18% |
| Prompt | | | 0 | 0 | 0 | 0 | 0 | --- | |
| Mixed | | | 0 | 1 | 0 | 0 | 0 | 20% | |
| <i>Total</i> | | | <i>2</i> | <i>3</i> | <i>1</i> | <i>0</i> | <i>0</i> | <i>18.3%</i> | |
| Qs | | Recast | 1 | 2 | 1 | 0 | 1 | 26% | |
| | | Prompt | 1 | 3 | 0 | 1 | 0 | 22% | |
| | | Mixed | 0 | 0 | 0 | 0 | 0 | --- | |
| | | <i>Total</i> | <i>2</i> | <i>5</i> | <i>1</i> | <i>1</i> | <i>1</i> | <i>24%</i> | |
| Grand Total | | | 4 | 8 | 2 | 1 | 1 | 21.16% | |

Table 23

“Decreased” scores totals across groups, categories, targets and CF conditions

| <i>Group</i> | <i>Target</i> | <i>CF condition</i> | <i>Decreased – range of change</i> | | | | | <i>Avg.</i> | |
|--------------|---------------|---------------------|------------------------------------|----------|----------|----------|----------|-------------|--------------|
| | | | 10% | 20% | 30% | 40% | > 50% | | |
| Noticing | Past | Recast | 2 | 1 | 1 | 1 | 0 | 22% | |
| | | Prompt | 1 | 0 | 2 | 0 | 0 | 23.3% | |
| | | Mixed | 1 | 1 | 0 | 1 | 0 | 23.3% | |
| | | <i>Total</i> | 4 | 2 | 3 | 2 | 0 | 22.7% | |
| | Qs | Recast | 2 | 2 | 3 | 0 | 1 | 25% | |
| | | Prompt | 2 | 0 | 0 | 0 | 0 | 10% | |
| | | Mixed | 1 | 3 | 3 | 0 | 0 | 22.86% | |
| | | <i>Total</i> | 5 | 5 | 6 | 0 | 1 | 22.35% | |
| | | Grand Total | | 9 | 7 | 9 | 2 | 1 | 22.5% |
| | | <hr/> | | | | | | | |
| No noticing | Past | Recast | 0 | 0 | 1 | 1 | 1 | 40% | |
| | | Prompt | 1 | 0 | 0 | 2 | 0 | 30% | |
| | | Mixed | 0 | 0 | 0 | 0 | 0 | --- | |
| | | <i>Total</i> | 1 | 0 | 1 | 3 | 1 | 35% | |
| | Qs | Recast | 2 | 1 | 0 | 0 | 0 | 13.3% | |
| | | Prompt | 1 | 0 | 0 | 1 | 0 | 25% | |
| | | Mixed | 0 | 0 | 1 | 0 | 0 | 30% | |
| | | <i>Total</i> | 3 | 1 | 1 | 1 | 0 | 20% | |
| | | Grand Total | | 4 | 1 | 2 | 4 | 1 | 27.5% |

In sum, no definite conclusion can be made about the role of noticing in the learning of the English past and questions as the relationship between noticing and gain scores is a complex one. Inferential statistics show that reported noticing predicts increased gains for the past tense, especially when the feedback is in the form of a recast. However, no such relationship was found for questions. The qualitative analysis, in turn, pointed to an association between noticing and learning for some learners and learning without noticing for others, suggesting that while noticing of feedback may be beneficial, it may not be a universal prerequisite. Specifically, the data suggest that while noticing

of CF brings about increased gains ($n = 50$), there are learners who despite reporting noticing decreased in their scores ($n = 28$). Yet, some of the learners who did not report noticing showed increased gains ($n = 16$).

4.3 Learner Beliefs

To answer the final research question - *Do learner beliefs about CF mediate their noticing and learning of L2 norms?* – Pearson correlation analyses were undertaken. For such analyses to take place, an exploratory factor analysis was performed on the 40 items on the beliefs questionnaire administered to 197 participants to determine their perceptions about the role of corrective feedback in the study of languages.

The items were subjected to principle components analysis (PCA) using SPSS Version 17. Prior to performing PCA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .30 and above, which signified significance of the factor loadings (Child, 2006) and is in line with the previous research on learner beliefs (Loewen *et al.*, 2009). However, based on a more conservative approach utilized by other factor analysis experts (Pett *et al.*, 2003), it was decided to suppress factor loadings of less than .40 to ensure a more obvious pattern matrix with identifiable themes. The Kaiser-Meyer-Okin value was .82, exceeding the recommended value of .6, and Bartlett's Test of Sphericity reached statistical significance ($\chi^2 = 2968.542$, $p < .001$), supporting the factorability of the correlation matrix (Pallant, 2007; Field, 2005). Cronbach's alpha for the total 40-item scale was .84.

Principal components analysis revealed the presence of 12 components with eigenvalues greater than 1, accounting for 65.4% of the total variance. An inspection of the screeplot revealed a break after the fifth component, and it was decided to retain five components for further investigation. This was further supported by the results of Parallel Analysis (Watkins, 2000), which showed

only five components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (40 variables x 197 respondents). Table 24 (Appendix E) displays the Parallel Analysis results.

The five-component solution explained a total of 44.3% of the variance, with Component 1 contributing 22.21%, Component 2 contributing 8.23%, Component 3 contributing 5.2%, Component 4 contributing 4.5% and Component 5 contributing 4.2%. To aid in the interpretation of these five components, Oblim rotation that assumes a relationship among the factors was performed. Assigning descriptive titles to each factor, however, proved less than straightforward. As Table 25 (Appendix E) shows, the 18 items that loaded on Factor 1 were concerned mostly with expectation of CF in the classroom (Questions 23, 20, 25, 16, 17, 22, 13, 7, 9, 21, 26), but they also alluded to how (Questions 10, 11, 12, 14, 18) as well as when (Question 30) errors should be corrected, and how much correcting needs to take place (Question 29). The seven items that loaded on Factor 2 spoke to the type of errors that require CF (Questions 4, 38, 31), the timing of correction (Question 27), who should do the correcting (Question 28), and affective factors that feedback may evoke (Questions 2, 35). All three items that loaded on Factor 3 dealt with prompts as a CF technique, but the loadings were negative. The two items that loaded on Factor 4 also loaded on Factor 1, with the exception that the latter yielded positive values and the former, negative scores. The seven items that loaded on Factor 5 carried negative values and presented a puzzling display of preference for both recasts (Questions 36, 40) and prompts (Questions 33, 39) as well as for benefits of CF (Questions 32, 37, 6). What this output seemed to indicate is that while the participants saw CF as important and expected it in the L2 classroom, they appeared confused as to how, when, and by whom they prefer to be corrected.

Since interpretation of this output emerged as arduous and potentially not telling, it was decided to run an exploratory factor analysis only on those items in the questionnaire that dealt with expectation for and importance of CF

(Questions 2, 7, 8, 16, 17, 20, 21, 22, 23, 25, 26, 32, and 35) as well as two corrective techniques of interest to this research, namely recasts (Questions 6, 11, 12, 14, 18, 36, and 40) and prompts (Questions 3, 15, 19, 33, 34, and 39). The 14 items (1, 4, 5, 9, 10, 13, 24, 27, 28, 29, 30, 31, 37 and 38) that were excluded from this version of the analysis are listed in Table 26 (Appendix E). The 26 items were subjected to principle components analysis using SPSS Version 17. Prior to performing PCA, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix revealed the presence of many coefficients of .40 and above, which indicated significance of the factor loadings (Child, 2006). The Kaiser-Meyer-Okin value was .85, exceeding the recommended value of .6, and Bartlett's Test of Sphericity reached statistical significance ($\chi^2 = 1821.755, p < .001$), supporting the factorability of the correlation matrix (Pallant, 2007; Field, 2005). Cronbach's alpha for the 26-item scale was .855, suggesting very good internal consistency reliability for the scale with this sample (Pallant, 2007).

Principal components analysis revealed the presence of seven components with eigenvalues greater than 1, accounting for 61.82% of the total variance. An inspection of the screeplot revealed a clear break after the third component, and it was decided to retain three components for further investigation. This was further supported by the unrotated loadings of each of the items on the seven components (as shown in the Component Matrix), where most of the items loaded quite strongly (above .5) on the first three components and very few items loaded on the remaining components (Pallant, 2007). Although the results of Parallel Analysis (Watkins, 2000), displayed in Table 27 (Appendix E), showed four components with eigenvalues exceeding the corresponding criterion values for a randomly generated data matrix of the same size (26 variables x 197 respondents), the difference between the actual eigenvalue and the criterion value for Component 4 was very small (0.0039), suggesting that a three-factor solution is likely to be more appropriate. Furthermore, examination of the Component Matrix for the four-component

solution showed only one loading on Component 4. Ideally, there should be three or more items loading on each component (Pallant, 2007; Child, 2006), which makes this solution not optimal, supporting the decision to retain only three factors.

The three-component solution explained a total of 43% of the variance, with Component 1 contributing 26.72%, Component 2 contributing 9.13%, and Component 3 contributing 7.15%. To aid in the interpretation of the components, Oblim rotation was performed. The rotated solution revealed the three components showing a number of strong loadings and all variables loading substantially on only one component. The three extracted factors were named using the highest loading items on each component (Pallant, 2007). The 16 items that loaded on Factor 1 were concerned with expectation for CF (Questions 7, 16, 17, 20, 21, 22, 23, 25, 26, and 32) and Recasts as the technique of choice (Questions 6, 11, 12, 14, 18, and 40), so this factor was labeled as “Expectation of CF and Recasts as method of CF”. Among the six items that loaded on Factor 2, five items (Questions 3, 15, 33, 34, and 39) represented the belief that the best way to provide CF is through prompts, which push learners to self-correct, and one item (Question 36), with the lowest loading score, attributed the importance to recasts. Because the majority of the items with high loadings spoke of prompts as the corrective techniques of choice, this factor was named “Prompts as CF method”. Finally, because the two items (Questions 2 and 35) that loaded on Factor 3 pertained to the negative consequences that CF may yield, this factor was tagged as “Negative Consequences of CF” (Table 28).

Hence, from the 26 items subjected to factor analysis 24 emerged as most salient in the learners’ beliefs about corrective feedback, loading onto three factors. Question 8 (*Error is a sign of what I still ignore in English*) and Question 19 (*My teacher of English always repeats my speaking errors by adjusting intonation to highlight the error with the purpose that I correct it myself*) were the only items that did not load onto any of the three factors. The

resulting pattern suggests that the francophone high-beginner learners of English believe in the importance of oral corrective feedback and expect the teacher to supply the correct form in response to an error. They also see a positive role for self-correction and feel that a teacher's cue, comment, linguistic information or encouragement can help them treat their own errors. Finally, the participants' responses spoke of negative effects that CF can invoke: feelings of anxiety and a decrease in motivation to learn the target language.

Table 28

Rotated Factor Loadings for Learner Beliefs about CF (26 items)

| Item | Factor 1 | Factor 2 | Factor 3 |
|--|-------------|-------------|-------------|
| <i>I. Expectation of CF and Recasts as CF method</i> | | | |
| 6. Provision of the correct form is helpful for the beginner students. <i>(Fournir la forme correcte est bénéfique pour les étudiants de niveau débutant.)</i> | .512 | | |
| 7. The correction of speaking errors is necessary in an English class. <i>(La correction des erreurs orales est indispensable en classe d'anglais.)</i> | .528 | | |
| 11. Provision of the correct form is the best technique to correct vocabulary errors in English. <i>(Fournir la forme correcte est la meilleure technique pour corriger les erreurs de vocabulaire en anglais.)</i> | .575 | | .402 |
| 12. Provision of the correct form is the best technique to correct grammatical errors in English. <i>(Fournir la forme correcte est la meilleure technique pour corriger les erreurs grammaticales en anglais.)</i> | .567 | | |
| 14. In light of my oral errors in English, I prefer that my teacher explicitly lets me know that my | .536 | | |

utterance is incorrect and that he/she supplies the correct form.

(Face à mes erreurs orales en anglais, je préfère que mon professeur m'indique de façon explicite que mon énoncé n'est pas acceptable et qu'il me fournisse la forme correcte.)

16. If the teacher of English does not correct my speaking errors, my determination to learn English will diminish. .636

(Si le professeur d'anglais ne corrige pas mes erreurs orales, ma détermination d'apprendre l'anglais diminuera.)

17. The teacher of English must inform the student of the aspects that he must improve so that the student acquires them. .654

(Le professeur d'anglais doit informer l'étudiant des aspects qu'il doit améliorer pour que ce dernier arrive à les maîtriser.)

18. Provision of the correct form is the best technique to correct pronunciation errors in English. .683

Fournir la forme correcte est la meilleure technique pour corriger les erreurs de prononciation en anglais.

20. I expect my teacher to correct my vocabulary errors in English. .710

(Je m'attends à ce que mon professeur corrige mes erreurs de vocabulaire en anglais.)

21. If the teacher lets students make errors from the start, it will be difficult to remedy them later on. .521

(Si le professeur laisse les étudiants faire des erreurs au départ, il sera difficile de les en débarrasser plus tard.)

22. I like it when the teacher corrects me in an English class. .577

(J'aime que le professeur me corrige en classe d'anglais.)

23. I expect my teacher to correct my grammatical errors in English. .734

(Je m'attends à ce que mon professeur corrige mes erreurs de grammaire en anglais.)

-.454

| | |
|---|------|
| 25. I expect my teacher to correct my pronunciation errors in English. <i>(Je m'attends à ce que mon professeur corrige mes erreurs de prononciation en anglais.)</i> | .723 |
| 26. Correction of speaking errors in English reinforces student's oral production. <i>(La correction des erreurs orales en anglais est un moyen privilégié pour renforcer la production des étudiants.)</i> | .546 |
| 32. Correction of oral errors in English attracts my attention to the correct form given by my teacher. <i>(La correction des erreurs orales en anglais attire mon attention sur la forme correcte donnée par mon enseignant.)</i> | .402 |
| 40. Provision of the correct form is the best technique to correct speaking errors in English. <i>(Fournir la forme correcte est la meilleure technique de correction des erreurs à l'oral en anglais.)</i> | .484 |
| II. Prompts as CF method | |
| 3. Encouraging learners to self-correct is helpful for students at the beginner level. <i>(Inciter les élèves à se corriger par eux-mêmes est bénéfique pour les étudiants de niveau débutant.)</i> | .690 |
| 15. Pushing learners to correct their own errors helps them to acquire English. <i>(Pousser les étudiants à corriger leurs propres erreurs les aide à acquérir l'anglais.)</i> | .699 |
| 33. Encouraging learners to self-correct is helpful for students at the advanced level. <i>(Inciter les élèves à se corriger par eux-mêmes est bénéfique pour les étudiants de niveau avancé.)</i> | .640 |
| 34. I prefer it when my teacher of English encourages me to correct myself on my own. <i>(Je préfère que mon professeur d'anglais m'incite à me corriger moi-même.)</i> | .800 |
| 36. Provision of the correct form is helpful for the advanced students. <i>(Fournir la forme correcte est bénéfique pour les étudiants de niveau avancé.)</i> | .446 |
| 39. My teacher always provides a comment or | .485 |

linguistic information to help me to correct myself on my own.

(Mon professeur fournit toujours un commentaire ou un renseignement linguistique pour m'aider à me corriger moi-même.)

III. Negative Consequences of CF

2. Correction of speaking errors in English makes me anxious. **.682**

(La correction des erreurs orales en anglais me rend anxieux.)

35. Correction of speaking errors in an English class leads to a negative attitude towards the study of English. **.539**

(La pratique de la correction des erreurs orales en classe d'anglais mène à une attitude négative envers l'apprentissage d'anglais.)

In order to answer Research Question 3, average scores per factor for each learner needed to be computed. However, this proved difficult because Factor 1 and Factor 2 are composed of items that diverge in terms of concept. That is, Factor 1 is composed of the items that speak to the importance/expectation of CF and recasts as the method of treating errors. Similarly, while the majority of the items in Factor 2 are centered on prompts as the desired CF technique, one of the items, albeit with the lowest loading score, speaks of recasts. To enable investigation into the relationship between beliefs and noticing as well as beliefs and learning, the items that loaded onto Factor 1 and Factor 2 were separated in terms of the concept they represented, and a Cronbach alpha coefficient was calculated for each to ensure good internal consistency between the items. Hence, Factor 1 was split into two sets of beliefs: (1) importance and expectation of CF (Questions 7, 16, 17, 20, 21, 22, 23, 25, 26, and 32) and (2) recasts as a CF technique (Questions 6, 11, 12, 14, 18, and 40). Factor 2, in turn, took into account only the items that spoke to prompts as a CF technique (Questions 3, 15, 33, 34, and 39). Finally, although the items in Factor 3 (Questions 2 and 35) related to a similar concept, the

reliability coefficient was also calculated to ensure fair comparison in subsequent analyses.

The internal consistency of the items that comprise the new beliefs was assured with a Cronbach alpha coefficient, results of which are presented in Table 29 (Appendix E). While the Cronbach alpha values that are above .7 are considered acceptable (DeVellis, 2003), scores above .8 are preferable (Pallant, 2007). Hence, Belief 1 and Belief 2 suggest very good internal consistency reliability for the scale with this sample; the reliability coefficient for Belief 3, in turn, is satisfactory. Pallant (2007) explains that Cronbach alpha values are sensitive to the number of items in the scale (p. 95), and this might be the reason why the reliability score for Belief 3, with a total of 5 items, was slightly lower than those for the other two beliefs. Small number of items is also of concern in the two-item Factor 3, Affective consequences of CF, with a Cronbach alpha coefficient of .51. With short scales, low Cronbach values are common and inter-item correlations should be reported instead. The inter-item correlation for the two items is .343, which is acceptable in the optimal range of .2 to .4 (Briggs & Cheek, 1986).

With the internal consistency assured, each learner's average score for each belief item was calculated and compiled in terms of group means (Table 30). The results indicate that regardless of the group they were assigned to, all learners see corrective feedback as important and expect to receive correction to oral errors in the language class. In terms of the preference for the feedback type, the students in all groups appreciate the usefulness of both recasts and prompts, but tend to prefer recasts over prompts. Finally, the issue of motivation and anxiety seems to be on the minds of all the participants, irrespective of group.

Table 30

Group mean belief scores (maximum score: 5.0)

| Group | Importance of CF (Belief 1) | | Recasts (Belief 2) | | Prompts (Belief 3) | | Affective consequences (Belief 4) | |
|---------|--------------------------------|-----------|-----------------------|-----------|-----------------------|-----------|--------------------------------------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| | Recast | 3.90 | .46 | 4.05 | .56 | 3.50 | .63 | 4.25 |
| Prompt | 3.83 | .77 | 4.06 | .83 | 3.47 | .92 | 3.70 | 1.37 |
| Mixed | 4.04 | .84 | 4.13 | .84 | 3.43 | .96 | 3.88 | 1.51 |
| Control | 3.99 | .53 | 4.23 | .49 | 3.62 | .74 | 4.05 | 1.35 |
| Total | 3.93 | .65 | 4.11 | .68 | 3.50 | .79 | 4.00 | 1.40 |

4.3.1 Learner beliefs and Noticing of CF

To determine a possible relationship between learners' reports of noticing of the L2 norms and their beliefs about CF, correlation analyses were performed to determine (1) if there is a relationship between the learners' beliefs about Belief 1 (Importance of CF), Belief 2 (Recasts), Belief 3 (Prompts) and Belief 4 (Negative consequences of CF) and their overall noticing scores, and (2) if such a relationship exists across the two grammatical targets of interest.

The relationship between the overall noticing scores and the four beliefs was investigated using Pearson correlation coefficient and the results are presented in Table 31.

Table 31

Pearson correlations between noticing and beliefs (n = 79)

| Beliefs | 1 | 2 | 3 | 4 |
|----------------|----------|----------|----------|----------|
| Noticing | .221* | .255* | .063 | -.157 |

* $p < .05$ (2-tailed)

Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity (Pallant, 2007). There was a weak⁵⁸, positive correlation between the overall noticing and Belief 1

(Importance of CF), $r = .221$, $n = 79$, $p < .05$. Belief 1 helps to explain nearly 5% of the variance in the respondents' noticing scores. This finding suggests that the more students believe in the importance of CF, the more likely they are to notice its corrective intent.

There was a weak, positive relationship between the overall noticing scores and Belief 2 (Recasts as CF), $r = .255$, $n = 79$, $p < .05$. Belief 2 helps to explain 6.5% of the variance in the respondents' noticing scores. This finding suggests that the more students believe in the effectiveness of recasts as a feedback technique, the more likely they are to notice its corrective intent.

No significant correlation was found for Belief 3 (Prompts as CF), $r = .063$, and Belief 4 (Negative consequences of CF), $r = -.157$, suggesting that noticing appears to be independent from beliefs about Prompts and negative consequences of feedback.

Table 32

Pearson correlations between noticing and beliefs per group across two targets (n = 79)

| <i>Group</i> | Past tense | | | | Questions | | | |
|--------------|-------------------|-------|-------|-------|------------------|------|-------|-------|
| | <i>Belief 1</i> | 2 | 3 | 4 | <i>Belief 1</i> | 2 | 3 | 4 |
| Recast | .197 | .268 | -.201 | -.134 | -.047 | .080 | -.022 | -.150 |
| Prompt | .087 | .080 | .149 | -.330 | .185 | .157 | .029 | -.161 |
| Mixed | -.051 | -.053 | -.064 | .100 | .111 | .203 | .199 | .056 |

Another correlation analysis was performed to determine whether there was a relationship between group beliefs and noticing across the two target types, the results of which are presented in Table 32. No significant correlations were found between beliefs and noticing per grammatical target across groups, suggesting that for these language learners noticing of questions and/ or the past tense does not depend on their beliefs about CF.

4.3.2 Learner beliefs and test scores

Correlation analyses were performed to determine (1) if there is an overall relationship between the learners' beliefs about Belief 1 (Importance of CF), Belief 2 (Recasts) and Belief 3 (Prompts) as well as Belief 4 (Negative consequences of CF) and their post-test scores, and (2) if such a relationship exists on a group level.

Table 33

Pearson correlations between test scores and beliefs (n =99)

| Beliefs | 1 | 2 | 3 | 4 |
|----------------|----------|----------|----------|----------|
| Simple Past | .060 | .052 | .083 | -.135 |
| Questions | -.003 | .002 | -.083 | -.080 |

The relationship between the four beliefs and the test scores was investigated using Pearson correlation coefficient and the results are presented in Table 33. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity (Pallant, 2007). No significant correlations were found between beliefs and the test scores overall, suggesting that improvement from pre-test to post-test for these learners appears to be independent from the four beliefs about CF investigated here.

Table 34

Pearson correlations between test scores and beliefs per group across two targets

| <i>Group</i> | Past tense | | | | Questions | | | |
|--------------|-------------------|----------|----------|----------|------------------|----------|----------|----------|
| | <i>Belief 1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>Belief 1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
| Recast | .041 | .249 | .127 | .014 | -.271 | -.233 | -.143 | -.034 |
| Prompt | .087 | .080 | .149 | -.330 | .185 | .157 | .029 | -.161 |
| Mixed | -.051 | -.053 | -.064 | .100 | .111 | .203 | .199 | .056 |

The relationship between the four beliefs and the test scores across the three groups was investigated using Pearson correlation coefficient and the results are presented in Table 34. No significant correlations were found for the beliefs and test outcomes across the groups, suggesting that for this sample improvement on the two morphosyntactic features appears to be independent from beliefs.

To summarize, learner beliefs were composed of several underlying factors: (1) Importance of CF and Recasts as the CF technique; (2) Prompts as a CF technique, and (3) Negative consequences of CF. Specifically, the participants believe in the importance of oral corrective feedback overall and expect the teacher to use recasts in response to an error. They also see a positive role for self-correction facilitated by prompts and are aware of the negative effects that CF can invoke.

The correlation analyses between learners' reports of noticing and their beliefs about CF revealed a positive relationship between the overall noticing and the belief in the importance of CF as well as noticing and the belief in recasts as the effective feedback technique. There were, however, no significant correlations found between beliefs and the noticing of the two grammatical targets across the three groups.

Finally, no significant relationship was found between beliefs and the test scores overall and across groups, suggesting that post-test scores for this sample are independent from beliefs.

Chapter 5: Discussion

This chapter highlights and discusses the findings that emerged in the course of this study by addressing each research question individually. The chapter concludes with a discussion on the implications and limitations of the investigation and will suggest future research directions in the areas of noticing, language learning, and beliefs.

5.1 Noticing of corrective feedback and L2 development

5.1.1 Noticing of CF

The first goal of this study was to determine whether provision of CF promotes noticing and learning of L2 norms in the classroom (Research Question 1). The noticing results indicated that not only all the learners in the experimental groups were able to notice the feedback provided, the learners in both the Prompt and Mixed groups were able to notice the teacher's corrective intent more often than the learners in the Recast group. This finding suggests that, if provided, learners are able to notice feedback, albeit in different amounts. While the least amount of feedback was noticed by the Recast group (6.72%), the learners in the Prompt (22.27%) and Mixed (31.17%) groups noticed significantly more. The low noticing rates of recasts may be attributed to any of the limitations associated with this corrective move that have been unearthed in the literature thus far: error type (Mackey *et al.*, 2000), length (Philp, 2003), explicitness (Ammar & Sato, 2010a), proficiency level (Philp, 2003; Ammar & Spada, 2006), working memory capacity (Mackey *et al.*, 2002), and attention switching ability (Trofimovich *et al.*, 2007; Ammar & Sato, 2010a).

While the cognitive factors that affect the noticeability of recasts – working memory and attention switching - have not been investigated in this

study, based on the previous research, it may be possible that they played a role in constraining the learners' ability to recognize the corrective intent behind the provided recasts. Because these learners were of high-beginner proficiency, it may be also argued that recasts were too complex for them to process as feedback (Philp, 2003). This may have been due to the activities used that required the learners to communicate in English, which for many was the first time they had been asked to do so. The need to comprehend and transfer messages might have superseded learners' attention to form⁵⁹. Furthermore, even though many of the participants said that they had previously studied the past tense and question formation, the fact that they never had to use these in actual discourse might have made the targets appear unfamiliar, thus making the information contained in the recasts less accessible.

The choice of the targets (the past tense and questions in the past) might have also made recasts less noticeable because the learners had to deal with the features that are inherently difficult for francophones learning English for they represent different levels of complexity (DeKeyser, 1998, 2005) and are great candidates for L1 interference (e.g., Ammar *et al.*, 2010; Collins, 2002). The difficulty of the grammar involved is exacerbated by the error type in that morphosyntactic recasts have been shown to be noticed the least (Mackey *et al.*, 2000; Philp, 2003; Trofimovich *et al.*, 2007; Ammar & Sato, 2010) and to be the least perceived as being about morphosyntax (Mackey *et al.*, 2000).

The length of the recast might have also played a role in the noticeability scores because the Recast group's teacher had the tendency to use interrogative or regular recasts the most, foregoing the need to highlight the problem area with isolated recasts or to integrate it in a larger context (i.e., integrated recast). In fact, he would treat the errors in questions exclusively with the regular recast and use either the regular or interrogative forms to recast errors with the past tense. This was evident not only in the analysis of the teacher's overall feedback behaviour, but also with the 25 immediate recall instances, during which he mostly used interrogative recasts (9/13)⁶⁰ to treat the

errors with the past and employed solely regular recasts (12/12) to address issues of form in questions. Because previous research has shown that shorter recasts are noticed more by learners regardless of level (Philp, 2003) and that explicit recasts lead to more reports of noticing (Ammar & Sato, 2010a), it is possible that these learners were not able to realize the corrective intent of recasts because the type of recasts provided did not help them with the task. Moreover, the teacher's clear preference for the interrogative recast with the past tense errors probably confused the learners as to the function the recast was serving – to confirm the meaning or to correct the form – as is evidenced by the exchange below (Example 1).

Example 1

T: Did anyone serve you anything on the plane?

S1: Some drink.

T: What did you drink?

S2: I drink waters and warm lemon juice.

T: You drank some water?

S2: [confused]

T: Sorry, what did you drink?

S2: I drink water and lemon juice.

T: And, did everybody drink that or just you?

S1: I drink a Pepsi.

T: Do you know what they had?

S1: Vanessa drink nothing and Nazem drink vodka.

T: Vanessa did not drink anything?

S1: No, nothing.

Here, the same error⁶¹ (the past of the verb “drink”) was repeated four times by two different learners, yet the teacher chose to recast it each time in the form of a question. In fact, the first recast, judging from the student's reaction, is clearly attributed a non-corrective role. What's more, this interpretation on the part of the learner receives support with the teacher's “sorry”, suggesting that the teacher either did not hear or understand what had been said. Even the teacher's final reformulation (*Vanessa did not drink*

anything?) can easily be attributed to him not understanding the information provided and wanting to confirm it, making the intended correction in the form of the recast not evident to the learner. Conversely, the learner might have thought that the recasts provided by the teacher represented alternative ways of saying the same thing. This ambiguity of recasts has been explained in terms of limited learner repair after recasts in the French immersion context by Lyster (1998a; 1998b), who argued that the pragmatic functions of recasts may make their corrective function unclear in the language classroom. Finally, recasts may have posed an added burden on the learners to react to the form of their utterances (Sheen, 2006). This is because the learners had not only to recognize that the teacher's reaction was corrective but to also identify the locus of the problem, all in a short span of a discourse turn.

The fact that the participants noticed more prompts than recasts is corroborated by the previous research on the noticeability of feedback (Mackey *et al.*, 2000; Ammar, 2008). Specifically, Ammar (2008) found that prompts were not only noticed more than recasts, but that they also produced more of level 1 ("detection") noticing, where learners showed clear detection of correction either by explicitly saying so or by providing an explanation of what was correct. The superior noticeability of prompts has also been used to explain their effectiveness over recasts in promoting L2 development (Ammar & Spada, 2006; Lyster, 2004). Ammar and Spada (2006), for example, found prompts to be more effective than recasts in the acquisition of the English third person possessive determiners among young francophone learners of English. This effectiveness of prompts was also evident on the delayed post-test, suggesting that feedback in the form of prompts results in learning gains that are sustained over time. To explain the gains, the authors felt that noticing of prompts, although not measured, was one of the reasons why the learners benefited from this type of correction more than from recasts.

The superior noticeability of prompts has been explained by Ammar (2008) in light of their saliency for in using prompts teachers not only provide

learners with a clue that something is wrong with the form of the utterance but also push them to come up with a correct form on their own. In this study, the Prompts teacher used gestures, pauses, questions or supplied metalinguistic information to alert the learners to the presence of an error. He, then, also waited for them to provide a correction and would not move the lesson along unless such form was supplied. Needless to say, such actions on the part of the teacher probably made the corrective intent of prompts salient, calling on the learners to pay attention to the form of the utterance, regardless of whether the utterance was theirs or that of a peer. The following two examples – one to correct the error with the past tense; the other – the question error - illustrate the type of correction the teacher implemented.

Example 2

PAST ERROR – “AFTER THAT WE TOOK AIRPLANE”

S1: Did you eat Russian speciality?
 S2: But you know, McDo [McDonalds] is not a Russian speciality?
 S1: OK
 T: It is?
 S2: No!
 T: No. So, did you eat Russian speciality?
 S2: No.
 S1: Why?
 S2: It's too expensive.
 S1: So, there you eat nothing?
 S3: We eat McDo in the airplane.
 S1: No, there!
 [Class laughs.]
 S3: We bought the food and after that we take airplane.
 T: After that we (gestures the need for the past tense)... “take” in the past tense
 S3: Took.
 T: Good.

Example 3

QUESTION ERROR – “HOW LONG DID YOU STAY?”

S1: Did you visit a museum in China?
 S2: No.
 S3: How long time you stay in China?
 S2: Two hours.
 T: How long...
 S3: How long did you stay ...
 T: Good, how long... no “time”
 S3: How long did you stay in China?
 T: Beautiful!

To address the error in the past tense (Example 2), the teacher uses a gesture to indicate to the learner that the verb form needs to be in the past. To make sure that the student understands the meaning of the gesture, the teacher then provides a metalinguistic clue by saying “’take’ in the past tense”. Once the student self-corrects, the teacher confirms the correctness of the produced form and praises the student’s effort. Example 3, in turn, illustrates how the teacher’s pause and cue help a peer supply the correction of the error in the question. Here, the teacher first signals the presence of the error with a pause after the question word (“how long”) and when another student (not the one who made the mistake) provides the correction, the teacher confirms the supplied form and adds that the word “time” needs to be removed to form the question correctly. The combination of these moves allowed the original student to successfully repair his/her error. Hence, by having the teacher highlight the locus of the error, prompts helped the learners to notice the corrective intent behind the correction, thus satisfying the two basic prerequisites – identify the locus of the problem and elicit correction - behind the effectiveness of corrective feedback (Schmidt, 1983, 1990; Gass & Varonis, 1994).

The finding that the learners in the Mixed group were able to notice the teacher’s corrective intent more often than those in the Prompt and Recast groups combined speaks to the teacher’s use of both prompts and recasts to address errors of form. Specifically, according to the Counterbalance Hypothesis put forth by Lyster and Mori (2006), a balanced provision of recasts and prompts in a classroom setting may contribute to their effectiveness, and if noticing is a real prerequisite for L2 development, to their noticeability. The Mixed group teacher, in line with his natural corrective behaviour, provided prompts to elicit the grammar the students already knew and could act on. When, however, this was not the case, he would use recasts to expose the learners to the new form and/ or to move the lesson along. He felt that the presence of prompts primes learners to expect focus on form and that the most

efficient form of CF is the one that alternates between recasts and prompts. It can, then, be argued that having been exposed to prompts, the learners in the Mixed group came to expect attention to form, and when recasts were used, they were more likely to recognize their corrective nature.

The instructional setting also has a role to play in determining the noticeability of the supplied feedback. That is, according to the Counterbalance Hypothesis, learners in the highly meaning-oriented environments (such as immersion) stand to notice prompts more than recasts because prompts push learners to confront issues of form (Skehan, 1998) and thus, reorient the usual focus of the activities used in such classrooms from meaning to form. Similarly, learners in the form-oriented classrooms are more likely to notice recasts because they “enable learners [...] to reorient their attentional resources toward meaning in ways that avert an overemphasis on form at the expense of meaning” (Lyster & Mori, 2006, p. 295). Because the participants came from classrooms with various instructional orientations that ranged from no focus on form to extreme focus on accuracy⁶², it is possible to assume that all could have benefited from a balanced provision of both recasts and prompts. This was indeed the case in this investigation, where the Mixed group learners were not only able to realize the corrective intent of both prompts and recasts, but they also seemed to have noticed more recasts than prompts overall; the difference was especially apparent in the noticing of the two grammatical targets, where recasts were noticed more than prompts with questions ($n = 24$) and noticed at the same rate as prompts for the past tense ($n = 36$).

The explanation for these results may be found in Lyster and Mori’s (2006) rationalization that learners are likely to notice and benefit from salient recasts (1) when they are short and/ or are provided with emphasis to highlight the problem, and (2) when they are used with target forms that are beyond the learners’ knowledge (p. 296). The following examples provide evidence that the perceived recasts were either short in length or provided emphasis of the

problem (Example 4) or tackled problems beyond the learners' current abilities (Example 5).

Example 4

PAST ERROR – “BILL WAS UNDER THE TREE”

R: Where was Bill?
 S1: Bill is under the tree
 T: WAS under the tree.
 S1: Bill was under the tree.
 T: Repeat.
 S1: Bill was under the tree

Example 5

QUESTION ERROR – “WHEN YOU FELL DOWN, DID YOU BREAK SOMETHING?”

S1: When you fell down, did you broke something?
 T: When you fell down, did you broke something?
 S1: break?
 T: One more time please.
 S1: When did you fell down?
 T: When did you fell down?
 S1: When you fell down, did you broke something?
 T: When you fell down, did you broke (stresses) something?
 S1: Yeah. In your... (inaudible)...(class laughs)
 T: OK, slow down... When you fell down, did you broke (stresses) something?
 S1: When you fell down, did you broke something?
 T: did you break something
 S1: break something
 T: OK, one more time
 S1: When you fell down did you break something?
 T: That was great.

The shortness of the recast in Example 4 brings its corrective intent to the forefront with the learner immediately realizing the problem and repeating the target form correctly. The exchange in Example 4 indicates that the teacher first repeated the error to highlight the problem area, which seemed to make the corrective intent obvious to the learner for he/she came up with an alternative (“break”) but was unsure of its form. As soon as the teacher asked the student

to repeat the phrase as a whole, the student changed the initial question, making the same error as in the first instance. When the teacher repeated the erroneous utterance, highlighting the need to tend to the form with an added stress on the verb (“broke”), the student seemed unsure as to what to do next and repeated his original utterance (“When you fell down, did you broke something?”); this could have been because the student either did not seem to understand the problem or did not know how to correct it. When the teacher realized that the target form was beyond the student’s current proficiency, he supplied the correct form with a recast, which was clearly noticed by the learner for he/ she repeated the correction and then was able to repair the original question. In this way, the provided recast is similar to the “corrective recast” used in Doughty and Varela’s (1998) study, where the teacher would first repeat the student’s erroneous utterance, stressing the error, and if the learner did not react to the cue, the teacher would then provide a recast in which the emphasis was placed on the target verb⁶³. Hence, it may be argued that in Example 5 the teacher’s recast, preceded by the repetition of the error, increased the saliency of the error, encouraging the learner to recognize and eventually correct it. This is in line with the finding in Mackey *et al.* (2000) that learners who repeated recasts were more likely to correctly perceive its corrective goal.

Hence, despite the shortness of the treatment, the learners in the Mixed condition were able to notice the corrective nature of recasts more than their counterparts in the Recast group. The reason for this likely has to do with recasts being provided alongside prompts, a move that might have made the learners aware that the accuracy of form was one of the foci in this classroom.

5.1.1.1 Noticing of CF across grammatical targets

The results also showed that the learners in all the groups noticed more feedback to the errors with the simple past ($n = 121$) than those with questions ($n = 84$). What’s more, the learners in the Prompt and Mixed groups appeared to notice this type of errors (simple past) significantly more than the learners in

the Recast group. Feedback on errors with questions was noticed more by the Mixed group ($n = 41$) than the Recast group ($n = 12$); the number of prompts noticed in response to errors with questions by the Prompt group was 31.

While the superior noticeability of feedback on errors with the past tense is in line with the results of Ammar and Sato (2010b), who found PDs and past tense recasts more noticeable than those to the errors in questions, it stands in stark contrast with the results in Mackey (2006), who found that question formation (80%) was the most noticeable grammatical structure and the past tense (33%), the least noticed structure among the three (questions, plurals, and the past tense) investigated in her study on the relationship between noticing and learning. One of the explanations for the results supplied by Mackey was that question formation is more complex than that of the past tense because to form a question, two steps need to be involved: (1) syntactic alignment and (2) morphological agreement. These manipulations, then, may make questions more salient in the input, which is not the case for the past tense that requires “the addition of the past tense morpheme” (p. 423). Although not mentioned, the suggested past tense formation refers only to the rule-based past (regular) forms, which follow the general rule of adding *-ed* to the base form of the regular verb, and ignores the item-based forms that do not follow a clear rule and essentially represent irregular past tense forms, which are considered to be exemplar based (Ellis, 2005). If indeed only the regular forms were used to measure noticing in the Mackey study, then the fact that they were the least noticed is not surprising for low saliency (especially with the voiceless *-ed*), low communicative value, and high regularity (DeKeyser, 1998; N. Ellis, 2005) have been associated with these forms. Furthermore, the fact that the intervention included a task, in which questions were the explicit target⁶⁴, likely reinforced the saliency of this grammatical form, making it more noticeable to the participants as a result. Recently, Collins, Trofimovich, White, Cardozo, and Horst (2009) reiterated the low saliency of the regular past verbs in their analysis of the 110,000-word corpus that represented over 40 hours of aural

instructional input collected in grade 6 intensive ESL classes in Quebec. They found that there were a total of 15,130 finite verbs in the input of the three classroom teachers. Of these, 9% occurred with the simple past tense and 5% occurred in the progressive tense. Of the simple past verbs, 75% were the irregular forms and the remaining 25% accounted for the rule-governed regular past tense verbs. Based on these distribution profiles, the researchers argued that the past tense construction, especially in its regular form, cannot be “easily learned from input alone” (Collins *et al.*, 2009, p. 343). However, these results come from the data analysis that did not consider the speech of the L2 learners or the tasks used. Instead, the focus was on the nature of native-speaker input and as such, took into account only the language of the teachers in both spontaneous and scripted (e.g., storybook readings) situations. In this current study, however, the task drove the need for the past tense verbs to occur naturally and the noticing was measured based on the language produced in class by the learners themselves.

Table 35

Corrective feedback immediate recall instances with the past tense

| Group | Immediate recall instances | Past tense verbs | |
|--------|----------------------------|------------------|-----------|
| | Simple Past | Regular | Irregular |
| Recast | 13 | 3 | 10 |
| Prompt | 12 | 2 | 10 |
| Mixed | 18 | 6 | 12 |
| Total | 43 | 11 | 32 |

In fact, the majority of the past verbs after which the immediate recall was initiated were of the irregular kind (74.4%), which was the case across the groups. As can be seen in Table 35, out of the possible 43 recall instances with the past tense, 11 were after the regular and 32 after the irregular verbs. It is important to remember that the choice of the recall instances was not

predetermined but depended on the language produced in class. Hence, the fact that the majority of the verbs used in the exchanges initiated and carried out by the learners themselves were of the irregular past variety suggests their high frequency in the input and may even imply that because these verbs reoccur often, they are likely to be more salient for the learners trying to comprehend and communicate messages about the past. As such, it may be argued that it is these aspects of the feature - high saliency and high frequency in the input (Salaberry, 2000) - that helped the learners in this study notice feedback in response to errors with the past tense. This interpretation finds support in Yang and Lyster's (2010) recent investigation of the CF effectiveness on the Chinese university EFL learners' ($n = 72$) use of regular and irregular English past tense, where they reported significant gains for the irregular past verbs that were supplied with "implicit recasts", which were delivered "in an implicit manner... with neither intonational stress nor isolations of the error" (p. 258). They speculated that these gains probably had to do with the irregular past tense forms being more noticeable than the regular past forms.

Additional support for the noticeability of the irregular past tense verbs comes from the learner post-intervention interviews, where the learners either (1) openly referred to the fact that they were able to notice feedback to the irregular verb forms or (2) associated the irregular past tense forms with the study of vocabulary. Example 6⁶⁵ indicates that the learner clearly noticed feedback to the irregular verb "come" and was able to realize the difference between its basic and past forms. Interestingly, the fact that this learner was in the Recast condition reiterates the saliency of the irregular past verbs in the input.

Example 6

I learned the past tense; for example, sometimes I say "I come", but it is supposed to be "I came" because of the past (Aminata, recast group).

There were, however, those students who associated the past tense form of an irregular verb with a word that had to be learned in isolation from its base form, failing to relate the two forms to the common source. As Example 7 shows, the learner saw the verb “fall” as different from its past tense form, “fell”, not realizing that the two are connected. In fact, when probed as to what they meant by saying that they learned “vocabulary” during the experiment, some learners would use the irregular past verb forms as examples.

Example 7

I learned a lot vocabulary [during the tasks] that we probably knew but have forgotten because we don't use it. For example, “tomber” [fall] is “fell”, but I forgot this (Melissa, recast group).

Finally, although no noticeability analysis on which of the two past tense verb forms – regular or irregular – were noticed more was performed, the fact that the learners in all the groups were able to recognize the corrective intent behind the supplied feedback on errors with the past speaks to the frequency and saliency of this grammar feature in a language classroom. Hence, it is reasonable to suggest that tasks that engage learners in the production of the language that is necessary to carry out the activity and at the same time allow for a focus on form naturally predispose learners not only to pay attention to what they say but also to how they say it.

Even though the noticeability of feedback in response to the past tense errors was higher than that to questions, the CF to questions was also noticed. This could be explained by the general frequency of questions in the classroom discourse (Spada & Lightbown, 1999; Mackey, 2006) and the fact that they were a key requirement for the tasks carried out in the study. The difference in the noticeability rates, however, could be accounted for by the complexity of the English question formation and L1 interference. As mentioned earlier, to form a question in English a learner needs to first invert the subject with the question word/ auxiliary (syntactic movement) and then to ensure that the

subject and the verb agree in number and tense (morphological agreement). This procedure could either make the question formation process more salient for the learner or hard to understand and consequently, difficult to carry out. The saliency of questions can be promoted by the use of CF techniques that push learners to recognize the problem of the form (Mackey, 2006) and to modify the erroneous formation accordingly. This was probably the case with the learners in the Mixed and Prompt groups, who noticed feedback to questions more than those in the Recast group.

The L1-L2 difference in the rules of question formation could have also exacerbated the rate of noticing in so far as the need for the subject-verb inversion is concerned (DeKeyser, 2005). That is, because French forms questions differently and places a limitation on the kind of subject that can be inverted (pronouns) or not (nouns) in French questions, these francophone learners might not have been able to notice the need to invert the verb with the subject in English questions, which could be another reason why feedback to questions was noticed less overall. Furthermore, according to the Pienemann and Johnston's (1987) developmental sequence for question formation, the vast majority of the learners at the beginning of the study were at the fronting stage (i.e., Stage 3), which implies that they were able to move auxiliaries and Wh-question words to the front but were still not capable of inverting the subject with the verb in English questions. Hence, their stage of development might have been a factor that precluded their ability to notice the corrective intent of the feedback to questions. Moreover, the difficulty associated with the subject-verb inversion in questions may also depend on proficiency level. In fact, Hertel (2003) suggested that the issue of non-inversion could persist until the advanced proficiency has been reached. Perhaps, because the learners in the Mackey (2006) study were of the high-intermediate proficiency they were more attuned to the complexity of the English question formation and as such, were more likely to pay attention to the form of their questions, a realization that had not become apparent for the high-beginner learners in this investigation. It is

also possible that the high-beginner classification assigned to the participants was not a true reflection of their linguistic ability in English and that in reality, their proficiency was weaker. As such, it is possible that the learners' proficiency could have been another variable that restricted their ability to notice the inversion in questions.

Finally, it is important to mention that just because the learners did not provide evidence of noticing it cannot be assumed that they did not notice the feedback provided for “absence of evidence is not the same thing as evidence of absence” (Mackey, 2006, p. 409). While this is true of many studies on noticing, it carries a special relevance for this investigation because several students expressed frustration about not knowing what to write after the red card (immediate recall) was lifted. The following examples indicate that while the learners could have reacted to more of the recall prompts, at times they were unable to because they did not know how to express their thoughts (Examples 9 and 10) or what to write (Examples 8 and 10); some felt that the recall prompt itself - “*Each time you see the RED CARD, write what you are thinking in relation to the lesson*” - was too broad (Example 11).

Example 8

I liked the “red card” but it was difficult because we did not always know what to write (Aminata, recast group).

Example 9

At times, it was difficult to describe what we were thinking [when the red card was lifted] (Celine, recast group).

Example 10

Some people did not know what to write and how to express their thoughts, but it was easier the second time around [i.e., the second 120-minute lesson in week 2] (Stephanie, mixed group).

Example 11

It [red card task] is not a bad idea but the question was too broad and it was difficult to answer it at times (Vanessa, recast group).

In general, however, students in the Prompt and Mixed groups recognized the value of the “red card” in that it made them pay attention to what was happening in the class (Examples 12 and 13) and some even said that the card allowed them to notice the feedback provided (Examples 14 and 15).

Example 12

[The red card] kept us on track and was effective (Abdelkrim, prompts group).

Example 13

[It] allowed us to stay focused on the lesson because at times it is easy to get lost in your thoughts but every time the red card was called, it allowed me to return to what was happening in class (Jessica, prompt group).

Example 14

[The red card] helped me recognize that correction was being provided. The correction allowed me to see how the correct form needs to be phrased and how to apply the correct form of the verb to a particular situation (Sebastian, prompt group).

Example 15

[The red card] attracted my attention to the teacher’s correction and made me learn (Annie, mixed group).

Interestingly, although the learners in the Recast group did not recognize the “focussing” nature of the recall prompt as much as their counterparts in the Prompt and Mixed conditions did, they associated the tool with helping them pay attention to the activity at hand, but not the form of the message (Examples 16 and 17). Some felt that the degree of effectiveness of the

“red card” tool depended on the person for if a learner is attentive by nature, then he/she would not benefit from the tool (Example 18).

Example 16

[The red card task] was fun because it allowed us to find inaccuracies in the stories, to say that they are guilty or they are not guilty (David, recast group).

Example 17

[It] made us more attentive because we knew that it will come. The card is helpful for the teacher to know if the students like the activity and if he should continue with it (Cynthia, recast group).

Example 18

[The red card] helped to pay attention but not all the time – its helpfulness depends on the person: if she is already attentive, the card does not really add anything to this, but the card helps in keeping the activity going and adding the element of surprise because you don't know when it will be called (Celine, recast group).

These insights communicated during the learner post-intervention interviews reiterate the need to exercise caution when interpreting the amount of noticing the participants reported because the tool used to measure noticing could constrain what is and is not shared. It is, however, interesting to learn that the “red card” was helpful in getting all the participants involved in the classroom tasks regardless of whether their attention was directed to meaning or to form of a given utterance.

5.1.2 L2 development

In terms of L2 development, the only statistically significant finding was in the accuracy levels achieved with the past tense. That is, the overall test scores on the past tense measure were higher than those for questions. This

result can be attributed to two influences that may have affected the acquisition of the grammatical targets under investigation: (1) the different levels of complexity each target represents and (2) the L1 influence on each. While English questions, unlike the past tense, are arguably easier to learn in terms of form and meaning, it is their inherent subject-verb inversion that complicates the task because it often goes unnoticed by learners, and this is despite their frequency in the input. The problem is exacerbated further in light of the way the participants' L1, French, forms questions - by allowing the declarative word order to be preceded with the question marker "Est-ce que". Furthermore, because the inversion is among the last steps involved in the successful acquisition of the English questions (Pienemann & Johnston, 1987), these high-beginner learners were arguably not ready to benefit from the questions supplied in the input and the feedback on form provided by their teachers.

The past tense, in turn, might have been easier for the participants to progress on because of the highly irregular verb morphology in French, which may have predisposed them to the irregular past verbs and the rule-governed verb-final *-ed* on the regular past forms in English. The high frequency of the irregular verbs that naturally occurred in the communicative tasks might have also contributed to the higher scores achieved by the participants on the past measure. Furthermore, because the past tense was noticed more, it is reasonable to argue that the test scores on the feature would translate into higher accuracy levels as a result, the conclusion arrived at by Yang and Lyster (2010). Finally, the use of the telic verbs, which naturally call for the past tense to signal achievement and accomplishment, might have aided the learners on the tests, yielding higher scores for the past than for questions.

These accuracy levels, however, did not translate into group differences, suggesting that none of the feedback techniques used were effective in producing higher gains for either of the targets. One of the reasons for this may lie in the fact that the results from the delayed post-tests could not be used. This is especially poignant given that "thinking or processing time may be needed

before change can take place” (Mackey *et al.*, 2000, p. 474). In fact, some studies (e.g., Mackay, 1999) have found more development on the delayed post-tests than on the tests carried out immediately after the intervention. In addition to the “thinking time”, learners might need multiple exemplars to understand the significance of the feedback provided (Gass, 1997) and to integrate this new information into their interlanguage. Hence, it is possible that an intervention of more than four hours could have allowed for the production of more exemplars and their focused practice. Finally, the developmental measures used might have contributed to the resulting scores in terms of the content, presence of obligatory verbs, and the need to collaborate with another learner for the questions’ measure but not for the past task.

5.2 Noticeability of CF and test scores

Two types of analysis carried out to determine a possible relationship between noticing of CF and the gain scores revealed different conclusions. The multiple regression analysis suggested that a relationship between noticing, feedback and language may exist for the past tense, especially when recasts are used to treat errors in the past. The qualitative analysis of the gains achieved by individual learners, in turn, revealed a puzzling picture. The data suggest that while noticing of CF brings about increased gains, it is not clear why the learners, who despite reporting noticing, decreased in their scores. Furthermore, if conscious noticing is necessary for learning (Schmidt, 1990), then why the learners who did not report noticing showed increased gains? It may be that the change in gain scores does not necessarily follow noticing or may even not depend on it. Instead, this change suggests that learning without awareness (“subliminal learning”, Schmidt, 1990) or learning below the threshold of awareness may be possible. Such a conclusion finds support not only in Truscott’s (1998) assertion that noticing may be “helpful but not necessary” (p. 126), but also in Schmidt’s (1995) concerns about the provability of the

noticing hypothesis in that “reports of learning without awareness will always flounder” (p. 28). Hence, the relationship between noticing and gain scores, while very possible, is not clear, a finding reiterated by previous research (Mackey, 2006; Ammar & Sato, 2010b).

So, why do the results obtained here diverge and, as a result, cannot demonstrate a direct link between noticing of feedback and L2 development? One reason may lie in the noticing measure utilized. While the immediate recall is said to be more effective than the retrospective recall in predicting L2 learning (Ammar & Sato, 2010b), it is not without limitations. The major drawback has to do with its implementation and the need to have the respondents trained in using it (Gass & Mackey, 2000). Because in this study such training was limited to a demonstration of what the learners were to do, some said that they were not sure what exactly was expected of them and/ or how to best put their thoughts into words; this could have been exacerbated by the broadness of the immediate recall prompt and the fact that very concrete examples on how to carry out the task could not be given (for the fear of results contamination). Conversely, the pressure of having to complete the sheet together as a class might have made a few learners put just anything on paper without necessarily giving it much thought.

The shortness of the intervention could be another reason why the obtained results differed. Specifically, it may be argued that four hours of communicative learning is not enough to see tangible outcomes and that learners need to be exposed to more targeted practice to see results (Gass, 1997). Moreover, it is possible that had the results obtained on the delayed post-test been used, a more pronounced relationship between noticing and learning could have been obtained (see Mackey, 1999).

Individual differences, whether cognitive or not, associated with the task of learning in general and language in particular, could have also precluded some learners from translating what was noticed into L2 gains. In particular, in order to benefit from the supplied feedback, the learners needed to understand

that they were being corrected as well as to identify the specific feature addressed by the feedback move. The extent to which these tasks could be performed may have relied not only on the type of feedback or the error it targeted, but also on the individual ability to benefit from the clues in the environment (e.g., gestures, context, task) as well as to draw on particular cognitive strengths (e.g., analytical ability, memory span, attention capacity) and affective variables (e.g., language anxiety, beliefs about language learning). The fact that this study focused on the oral (versus written) feedback might have made these differences more apparent because of the immediacy of the oral CF, which may possibly tax the learners' short-term memory more than the feedback delivered to writing. The effectiveness of oral feedback may also be limited by how learners perceive anxiety and what they believe about CF. If, for example, learners fear correction of speaking errors, they are less likely to benefit from the supplied feedback, the situation exclusive to oral CF (Sheen, 2011). Similarly, while positive attitudes to feedback are likely to result in higher gains, the only study to date that has addressed the mediating effects of learner attitudes towards error correction on oral and written CF (Sheen, 2011) found beliefs to have a much stronger mediating effect on written rather than oral CF. Hence, although the effects of cognitive factors were not investigated in this study, the fact that anxiety came up as a factor (Factor 3: Negative consequences of CF) among the beliefs the participants' held about CF suggests that it is a very real concern for them, which can mediate how much they benefit from the classroom-delivered feedback. However, the fact that the beliefs about anxiety, the importance of CF and specific CF types did not predict the learning outcomes may question the extent to which the learners were aware of the role of feedback in language learning for "attitudes towards error correction cannot be expected to have any mediating effect if learners are not aware that they were being corrected" (Sheen, 2011, p. 151). Additional reasons for the lack of this association are discussed in more detail later in this chapter.

Finally, a task that aims to provide and to elicit the targeted features could be the reason for the observed gains. In other words, by virtue of their design, the two tasks used in the study may have made the use of the past and questions in the past inherent, inevitable and by necessity, repetitive, contributing to the gains among all the participants, regardless of whether or not they were aware of the target structures. For those who noticed the feedback, the task helped to (1) focus their attention on the meaning that needed to be created and communicated to the rest of the class, (2) create awareness of the linguistic forms necessary to transfer the intended message, (3) push learners to access and utilize these forms, and (4) to identify the purpose and the target of the feedback supplied. On the other hand, the sheer participation in this type of activities could have helped the non-noticing learners to focus their attention and possibly, even to detect the target forms in the input. However, both remained below the level of awareness required to verbalize their noticing. Regardless of their ability to report noticing, these learners benefited from the tasks as is evidenced by the increase in their gain scores. In light of this, Ortega's (2007b) conclusion that language learning is a consequence of the interaction of multiple influences resonates loudly with the gains, with or without the reported noticing, that occurred in this study. In particular, this learning could have resulted from either or both learner-internal (e.g., attention to form) or learner-external (e.g., a task that offers essential L2 input and feedback) influences that "are activated in the course of engaging in meaning-making through language and action, and as a result of functional requirements of specific things done with language" (Ortega, 2007b, p. 198).

In sum, noticeability of corrective feedback does not guarantee score gains for it is but a variable in the complexity that is language learning. Hence, feedback can aid in learning, but it is not the only variable that does.

5.3 Learner beliefs

In order to answer the third research question - *Do learner beliefs about CF mediate their noticing and learning of L2 norms?* - an exploratory factor analysis was performed to determine the respondents' perceptions about the role of corrective feedback in the study of languages. The factor analysis conducted on the learners' responses to the 26 items in the Beliefs' Questionnaire identified three factors about corrective feedback that the participants deemed important: (1) Expectation and Recasts as method of CF, (2) Prompts as method of CF, and (3) Negative Consequences of CF. Specifically, the results of the current study suggest that learners believe in the importance of oral corrective feedback and expect the teacher to provide the correct form in response to an error. They also feel that self-correction aids in language acquisition but count on teacher's help to signal the presence and/or locus of the error. The participants are, however, aware of the negative consequences that CF can carry, affecting motivation/interest in learning L2 and creating feelings of anxiety. Possible reasons for each of the three factors are detailed next.

5.3.1 Factor 1: Expectation and Recasts as method of CF

The expressed belief in the importance and expectation of CF in the language classroom is in line with the previous research that showed that both second (e.g., Cathcart & Olsen, 1976; Chenoweth *et al.*, 1983) and foreign (e.g., Schulz, 1996; 2001) language learners acknowledge the usefulness of CF in language learning and expect it in the language learning situations (Schulz, 1996; 2001). What is of special interest here, however, is that these college-level learners seem to equate the importance of CF with recasts as the preferred technique to receive feedback. That is, they do not differentiate between the concept of usefulness of CF and the technique with which they believe it should be provided⁶⁶. Possible explanations for this belief may be found in its origins,

which could have been acquired consciously and/ or unconsciously (Larsen-Freeman, 2001) and be a product of a number of experiences one has undergone at various stages of life (Bernat & Gvozdenko, 2005). Research shows that beliefs about learning begin to develop early in elementary and secondary school (Chin & Brewer, 1993) and continue to mature in mid-to-late adolescence (Cantwell, 1998; Schommer, 1993) or by the time one enters university (Weinsten, 1989), cementing into a stable body of knowledge (Arnold, 1999; Nespors, 1987) as a result. Researchers in the field of L2 learning also provide evidence that “student beliefs about language learning originate from their second language learning experiences (Horowitz, 1985; Roberts, 1992; Kern, 1995; Peacock, 2001; Richards, 1998; Almarza, 1996), particularly in secondary school” (Peacock, 2001, p. 187). It is, then, reasonable to assume that the respondents’ past L2 learning experiences have probably been influential in making them bulk together the questionnaire items that dealt with the importance of CF and recasts as the CF technique of choice. Specifically, these influences might have originated from their experiences with the instructional setting, the type of feedback received, and the role teachers played in the students’ language learning.

5.3.1.1 Instructional setting

Because the majority of the participants reported learning English in the Quebec classrooms, it is possible that their spoken errors were either addressed in some fashion or were not addressed at all during the course of their academic careers. The lack of CF interpretation stems from the earlier MEQ programs (of the 1980s) that emphasized meaning-building activities, focusing on oral fluency and comprehension proficiency, and either discouraged or remained silent about the inclusion of form-based activities and error-correction in the provincial curriculum (Lightbown & Spada, 1994). Empirical research on the effectiveness of these communicative programs demonstrated that its graduates

lacked in terms of accuracy (Swain, 1984; Lightbown & Spada, 1990, 1994) and motivated a shift in the way CF became seen and is currently promoted in the latest provincial ESL program regulations. Hence, those participants who had not received feedback in response to their erroneous productions in the course of the language study might have realized the importance of CF upon experiencing unsuccessful attempts to communicate in the L2 outside of the classroom. Conversely, those who had repeatedly received information about the well-formedness of their L2 utterances likely appreciated its usefulness in the real-life discourse, in which successful interactions reaffirmed the importance of paying attention to form.

Not receiving CF to speaking errors was predominantly the case for the learners in this study. Specifically, the learner post-intervention interviews revealed that throughout school the participants had not engaged in communicative practice and had ESL teachers who (1) did not speak English and conducted language lessons exclusively in French and (2) chose to concentrate on metalinguistic conventions of the L2, engaging learners in rote memorization and application of grammar rules. In fact, all the interviewees ($n = 20$) reported the activities of this study as their first opportunity to speak English freely, beyond the limits of a grammar practice task. Even though at first many were uncomfortable about having to use English, they soon warmed up to the idea, realizing that this was their chance to converse in the L2 without feeling afraid (Examples 19 and 20); they also saw the two activities as a way to put the previously learned grammar into practice (Examples 21 and 22):

Example 19

At first, I was reticent about the whole thing because I don't like to be in front of others, but now I think that it was a good idea and allowed us to participate more (Vanessa, recast group).

Example 20

I am shy about speaking in English, but these activities forced me to speak in front of the class, and I liked it because they helped me feel at ease (Annie, mixed group).

Example 21

Because our usual English classes are filled with grammar explanations and tend to be quite long, there is usually no interaction, but these activities allowed us to put grammar into practice (Jessica, prompt group).

Example 22

We need practice to learn English because we can't learn English just from reading [in it]. If we don't listen to spoken English we cannot really speak it, so this was an important practice for me, I feel (Leidina, control group).

The fact that the learners reported receiving no opportunities for oral practice is, unfortunately, not surprising in the context of Quebec, where the number of hours allocated to the ESL instruction is quite limited and is mostly dedicated to the study of grammar as a result. In fact, ESL learners in the province generally receive 30-60 minutes a week of English at the elementary level and 150-200 minutes per week in high school; and this is despite the recent schooling reform that brought with it an early introduction of ESL instruction to Grades 1 and 2. In addition to this early-start initiative, this reform has also put more onus on schools to increase the time spent teaching mathematics and French, thus straining the already limited exposure to English in the classroom. What complicates the situation further is that despite the MELS's recommendations, school boards are free to adjust the type and amount of ESL instruction they provide. They may, for example, increase the number of hours and type of instruction their learners receive or, for various reasons, choose "to offer less ESL instruction" (Lightbown & Spada, 1994, p. 564). Furthermore, the issues of English proficiency among the ESL teachers

and their willingness to engage in L2 discourse in the classroom (Winer, 2007) may also affect the amount of learning students achieve.

Although according to the official MELS policy, English must be the language of instruction in ESL classes, the situation on the ground is quite different. While there are schools where the ESL teachers speak English proficiently and use it in the classroom on a regular basis, there are those teachers who “routinely use little English and require even less of the students” (Winer, 2007, p. 499), opting, instead, for the French-medium instruction of the L2⁶⁷. These teachers are said to either suffer from an inadequate knowledge of English or they do “not know how to teach using the target-language as the medium” (Winer, 2007, p. 500). As a result, the learners become reticent about using English and may even oppose it altogether. The experience of little contact with the L2 is then not uncommon in Quebec and explains why the participants in this study were surprised and even uneasy at first, about the prospect of having to communicate in English. The following examples (Examples 23 - 26), however, reiterate that the experience of speaking in English made them realize their own L2 ability, learn new words and review old vocabulary, and use English to communicate stories and to ask questions:

Example 23

I feel that I have learned more from these two activities we did than from an entire course focused on grammar; I feel that learning to speak is much more difficult than writing (Sebastian, prompt group).

Example 24

[The activities] allowed us to advance in our knowledge of English... I know that we live in Quebec and French is very important, but I also feel that speaking English is just as important (Jessica, prompt group).

Example 25

In my previous English classes, we never spoke; I feel that I have learned more (vocabulary, ways to express ideas) during these two activities than ever before (Cynthia, recast group).

Example 26

We needed to improvise [with our stories and questions] and I liked that (Sabrina, control group).

5.3.1.2 Type of feedback

In line with the previous assertion that the provision of CF, or lack thereof, may affect the way one views the role of feedback in language learning, it is reasonable to assume that this experience (with or without feedback) can also motivate one's opinion about the ways/methods feedback should be supplied. Hence, the preference for the recast as the way to provide CF may be explained as either it being the only method with which the participants' errors had been addressed in the classroom or, in the case of no correction, it may represent the desired method of correction. If the former is the case, then seeing recasts as the best CF method is in line with the research that identified recasts as the most commonly used CF technique in the language classroom across contexts and languages (Slimani, 1991; Lyster & Ranta, 1997; Panova & Lyster, 2002; Lochtmann, 2002; Sheen, 2004, 2006). This method of correction can also be seen as the most familiar and non-intrusive. The familiarity may stem not only from learners being exposed to recasts in the L2 classroom, but also from L1 learning experiences, when recasts are used by parents or caregivers to clarify the meaning or address the truth value of the statements made (Farrar, 1990). Because recasts provide the correct version of what has been said without pointing out the inaccuracy, they may become the technique of choice. Moreover, recasts are especially prominent in native/ non-

native speaker interactions (Long, 1983, 1996, 2006), where communication breakdowns are signaled by L2 interlocutor's non-understanding of the intended message and the need to comprehend it. In such a context, recasts provide L2 learners with target-like models of the intended message and supply positive evidence about the grammaticality of the L2.

Based on the participants' reports, there were few opportunities for them to speak English in the classroom and, by extension, to have their oral errors corrected. Instead, the time spent in class was largely dedicated to the study of grammar and reading, discussion of which were most likely in French. Their exposure to the L2 outside the classroom can also be deemed as limited since the learners designated French as the home language, attended French-medium educational institution, and led their lives exclusively in French. As Example 27 shows, many of the participants attended the ESL class only because it was obligatory, and they needed to pass it to graduate:

Example 27

Many people come to English class [in CEGEP] because they have to but do not want to; so they just come to sit out the three hours they are required to attend the course and then, leave (Sebastian, prompt group).

It is, hence, possible to suggest that the participants' L2 learning and everyday experiences contributed to their seeing CF as important in the language classroom and declaring recasts as the best way to provide it. Interestingly, their expectation of CF does not seem to be shared by some Quebec (and maybe even their own) ESL teachers, who not only do not correct speaking errors but also do not allow for opportunities of peer oral communication. Although teacher beliefs about CF were not addressed in this study, based on the preferences expressed and experiences shared by the participants, there could have been a possible discord between teacher behavior

and learner beliefs in that the students wanted to be corrected but their past teachers did not see it as a priority (Example 28). This, in line with the conclusions reached by Schulz (1996), could have contributed to the learners' dissatisfaction with the teachers' L2 ability as well as the instructional approach in place, consecutively, limiting their ultimate achievement (Horwitz, 1987; Kern, 1995; Mantle-Bromley, 1995):

Example 28

The teacher always corrects us and this is good because in the other courses I took, I would hear the others make mistakes, but the teacher would not correct them, and that is bad because then the person will say it again the wrong way, but here the teacher always corrected us, and we feel at ease, not shy to say it; we are all the same in the group (Annie, mixed group).

5.3.1.3 Teacher's role in language learning

Traditionally, teachers have occupied a central role in the learning process, and it comes as no surprise, that learners, having come into contact with many different kinds of teachers over the course of their academic life, form ideas about what constitutes effective teaching and learning from these contacts. If, for example, the principles of autonomous learning, which encourage learners to take control of their learning through the use of a "set of tactics"⁶⁸, are encouraged and implemented in the classroom, then the learners, by consciously monitoring their performance (Stern, 1975), become more reliant on themselves than on the teacher to assure successful learning. In this way, the teacher acts as a facilitator, training students to develop awareness of the learning goals, the language, and themselves as language learners (Tudor, 1993). On the other hand, learners exposed to the traditional education system, where the teacher is seen as the authority figure who "acts as authority on the target language and on language learning, as well as directing and controlling all learning in the classroom" (Cotterall, 1995, p. 197), tend to rely on the teacher to determine the learning to be done, establish the time line in which to

achieve the set objectives, and to diagnose as well as to treat individual difficulties that may arise in the process of learning (Knowles, 1976). Here, learners are not taught to reflect on the learning they do or themselves as learners, but are conditioned to assume the “back-seat” role in the process (Cameron, 1990). As a result, learners expect all the knowledge and monitoring of that learning to come solely from the teacher (Kumaravadivelu, 1991). The same is true for feedback practices as learners may be unable to separate the notion of correction from the teacher’s role and depend solely on him/her to oversee their progress/ performance, as a result acquiring “beliefs that encourage dependence rather than independence” (Wenden, 1991, p. 55) from the teacher.

The cluster of items that loaded onto Factor 1 in this research seems to suggest that the participants very much rely on the language teacher for feedback on their performance and seem to assume little responsibility for their own learning. Specifically, they expect the teacher to: (1) keep students motivated to learn (see Questions 7 and 16), (2) to monitor the accuracy of their performance (Questions 17 and 21), (3) to reinforce oral production through feedback (Questions 26 and 32), (4) to identify the errors they make in grammar, vocabulary, and pronunciation (Questions 20, 23, and 25), and (5) to provide the correct form to the errors in speaking, grammar, vocabulary, and pronunciation (Questions 6, 11, 12, 14, 18, and 40). In this way, the learners exhibit beliefs of dependence prevalent in the traditional authoritarian view of the teacher’s role, relying exclusively on the teacher for feedback and assuming little responsibility for their own learning. Yet, these learners were able to recognize that self-correction aids in language learning and attributed prompts a separate role in their beliefs inventory (i.e., Factor 2). The possible reasons for this are detailed next.

5.3.2 Factor 2: Prompts as CF technique

Despite the learners' reliance on the teacher alluded to above, it may be argued that the items that clustered on Factor 2 indicate some recognition for the role of self-correction. However, a careful analysis of the questions involved suggests that while the learners may begin to recognize the importance of self-correction, they still depend on the teacher to (1) signal the error (Question 39) and (2) to encourage self-correction (Question 3, 15, 33, and 34). This is also true of the item with the lowest correlation score (Question 36) that speaks to the need for the teacher to supply the correct form, the move inherent to recasts.

The lack of adequate experience in language learning may be the reason why these learners are so reliant on the teacher. In fact, Victori (1992), in her investigation of the learners' views of language learning found that: "the more experience in language learning the respondents had, the less likely they were to rely on teachers during the task of language learning" (p. 72). Taking the instructional setting, the amount of exposure to the target language, the low proficiency level of the participants, and the traditional role of the teacher into account, it is not unreasonable to imply that these learners are in the early stages of language learning and as such, cannot be expected to operate independently from the teacher.

Another argument for why the participants saw prompts as a separate factor may lie in the recognition that the items that call for self-correction are inherently different from those that have the teacher supply the correct form. After all, none of the "prompt" items loaded on Factor 1, which highlighted the learners' belief that CF is important and needs to be supplied in response to the error. Perhaps, the main reason for the choice of the two techniques is that while learners generally agree on the need for feedback (Cathcart & Olsen, 1976; Chenoweth *et al.*, 1983; Schulz, 1996; 2001), they are not sure as to which type of feedback would suit them best and under what circumstances.

This is especially true in terms of the oral feedback since learners generally agree on the importance of CF to speaking but disagree on the type of feedback that works best (Casciani & Rapallino, 1991, cited in Loewen *et al.*, 2009). This was also found to be true in Bang's (1999) study of the university students' ($n = 100$) attitudes toward CF in the spoken-English EFL classroom, where most learners agreed on the importance of feedback to speaking, but their opinions diverged on the issues of when and how to correct. The difference in opinions regarding the effectiveness of specific CF techniques has also been documented among language teachers and their learners (e.g., Mohamed, 2011; Schulz, 1996, 2001). In a recent study, Mohamed (2011) investigated the opinions about CF among the French-as-a-foreign-language teachers' ($n = 25$) and learners' ($n = 175$) in Egypt. She found that while the teachers preferred and used recasts to correct most of their learners' spoken errors, the students did not see recasts as effective but favoured prompts instead. Unfortunately, for the most part, the teachers did not promote the practice of self-correction among their students, but rushed to recast the errors instead of pushing the learners to remedy these errors on their own.

In this current investigation, the groups' means for feedback type (Table 30) suggest that while the learners appreciate the usefulness of both recasts and prompts, the means for recasts appear higher across groups. Perhaps, the recognition of the two feedback techniques speaks to the learners' belief in the importance of variety in the treatment of errors, especially with learners of different proficiencies (e.g., Ammar & Spada, 2006). The high preference for recasts may be explained by the previously-stated reasons that spoke of recasts as (1) the "meaning-focused" technique commonly utilized by parents in interactions with children in L1 learning, (2) possibly the only CF feedback technique provided in the L2 class, and (3) the desired CF technique due to no L2 feedback. Finally, recasts may be seen as the most appropriate feedback technique with the low-proficiency learners because the onus to identify and

supply the correct form lies with the teacher, who is seen as the central figure in and the coordinator of the learning process.

The participants also recognized the affective concerns behind CF. Although only two items⁶⁹ loaded onto Factor 3, they spoke to the negative consequences that CF can carry, especially in the context of oral communication in the classroom. Specifically, the participants were concerned about the effect of oral correction on their motivation and willingness to learn English (Question 35) as well as the feelings of anxiety associated with feedback to speaking (Question 2). This means that the learners considered motivation and anxiety as related variables in the effective study of an L2. Possible reasons for this are detailed next.

5.3.3 Factor 3: Negative consequences of CF

The perceived connection between motivation and anxiety is not surprising as the two concepts are often considered together in SLA because both affect L2 performance. While motivation is generally perceived as positive because it “provides the primary impetus to initiate L2 learning and later the driving force to sustain the long and often tedious learning process⁷⁰” (Dörnyei, 2005, p. 65), anxiety usually gets the negative rap as “an arch enemy that needs to be eliminated at all cost” (Dörnyei, 2005, p. 198). Possible reasons for the connection drawn by the participants in this study may stem from their limited contact with the L2, use of the language, and their linguistic ability perceptions.

The limited contact with the L2 outside the educational system may have predisposed the participants to worry about the accuracy of their production in the target language and the effect that feedback may have on their motivation to seek such contact and to speak in L2. Motivational research has, in fact, shown that the amount of contact members of different language communities engage in not only impacts the learning one community does of the other community’s language, but also predetermines the learners’ desire to engage and/ or identify with the other culture (Clément, 1980; Clément &

Kruidenier, 1985). In this way, self-confidence in relation to L2 is socially defined and exudes significant motivational pressures in foreign language situations, where members of the L1 community have little direct contact with the L2 community members but much indirect contact with the L2 culture through media (Clément *et al.*, 1994; Dörnyei, 2005), as is the case with many areas in Quebec.

Limited contact with the L2 may, in turn, bring on the worry of freezing up when asked to say something in the language either during one-on-one interactions with native speakers or in front of a class of peers learning the language. Such worry may have been made paramount in the present context by the highly communicative tasks the participants were asked to engage in without much preparation beforehand. Furthermore, because language learners may inappropriately view in-class L2 production as a test situation and not as a chance to practise communication (Horwitz, 1987), it is possible that some of the participants in this study subscribed to this view (i.e., equating speaking opportunities with evaluations), choosing either not to participate or to limit their involvement in the whole class information exchanges for the fear of making a mistake or supplying a “silly” answer. Interestingly, the post-intervention interviews revealed that presentations delivered in front of the class represented the only type of speaking tasks the learners had previously took part in; these were highly formal and graded by the teacher. It is then reasonable to suggest that such experiences contributed to the learners’ perception of anxiety when speaking in the language class. In addition, while some held on to the security of a prepared presentation (Example 29), others appreciated the informality of the “new” tasks and the freedom to make mistakes in the process (Examples 30 and 31):

Example 29

I feel that there should have been more preparation done beforehand because while we had the information about our stories, we did not have the questions prepared and had to ask them on the spot. It would have been better if we presented to our small groups, instead of the whole class (Celine, recasts group).

Example 30

The activities were not as formal as the presentations we usually do, where we need to be prepared, and you feel bad about making a mistake; but in this activity if you made a mistake it did not matter because it was fun and people really did not take it seriously (Cynthia, recast group).

Example 31

Before this, I was very nervous about speaking in English and often used notes to help me speak (Arneau, prompts group).

Finally, negative perceptions of one's proficiency may have also made the task of communicating in L2 an anxious one. This is because low self-perceived ability coupled with corrective feedback is likely to yield increased worry and fear, especially when one has few chances to partake in evaluation-free speaking tasks, as was the case for many learners in this study.

Hence, in line with the definition of beliefs adopted in this study, the respondents felt that corrective feedback "should be done", "should be the case", and "is preferable" (Barturkmen *et al.*, 2004, p. 244) in the context of a language classroom. They also distinguished prompts as a separate feedback technique, but saw recasts as the way correction should be provided. Based on the individual experiences with the L2 study, the participants identified motivation and anxiety as possible confounders in successful language acquisition.

5.3.4 Learner beliefs and Noticing of CF

To determine the mediating effect of beliefs on the learners' ability to notice CF, it is necessary to recall that the results pointed to a positive connection between overall noticing and two of the four beliefs yielded by the participants' responses on the beliefs' questionnaire. These were (1) the importance of feedback and (2) recasts as the preferred corrective technique, which together comprised Factor 1. The positive relationship between noticing and beliefs suggests that the more learners believe in the importance of feedback, the more likely they are to notice it in the classroom, especially if the CF is in the form of a recast. While the relationship is statistically weak, it is important to note that the belief in the importance of CF helps to explain 5% of the noticing done whereas the belief in the recast as the effective feedback technique accounts for an additional 6.5% of the overall noticing scores, suggesting that the combined effect of the two beliefs (or Factor 1) on the overall reported noticing is 11.5%. Hence, it may be argued that 61.3%⁷¹ of all the respondents who reported noticing (18.76%) were guided by their belief in the importance of correction and recasts as the effective CF technique to recognize the corrective intent behind the supplied feedback, which in itself is a strong indicator of the learners' understanding of the role of CF in language learning success. This finding reiterates the general agreement among SLA researchers that learners approach language tasks with preconceptions that may affect their attitudes, motivation and behaviours (Horwitz, 1988; Kern, 1995) and that learners generally favour feedback on errors in the classroom (Cathcart & Olsen, 1976; Chenoweth *et al.*, 1983; Schulz, 1996; 2001; Mohamed, 2011). The learners' beliefs about the importance and effectiveness of feedback in this study seemed to have positively affected their ability to notice the supplied corrections, paving the way for a more productive and longer-lasting learning experience (Mantle-Brompley, 1995).

The finding that there was no statistically significant relationship between beliefs and noticing across the two grammatical targets (the past tense and questions in the past) may be seen as contrary to the previous research (Kern, 1995; Peacock, 1999; Schulz, 1996, 2001) that has associated higher concerns for grammatical accuracy and error correction among learners than teachers. Specifically, in these studies, the learners seemed to enjoy grammar instruction and error correction more than their teachers (Peacock, 1999), who appeared less concerned about the value of grammar teaching than did their students (Schulz, 1996). In Kern's (1995) study, the learners, more than their teachers, were concerned about the effect of fossilization in the case of no error correction and tended to agree with the statement that "learning a foreign language is a matter of learning a lot of grammar rules" (pp. 79-80). So, if grammar is so important and feedback is a gateway to grammatical accuracy, then why no association between beliefs about CF and noticing scores of either of the two grammatical features was identified? One of the reasons may have to do with the fact that no direct questions regarding the role of grammar instruction were posed, thus preventing an evaluation of the learner preference in this regard. Another reason may lie in that "students may not be universally motivated to be accurate, generally, or grammatically accurate, specifically" (Chavez, 2007, p. 555). Chavez's study on the needs for accuracy in the oral production among German as a foreign language students ($n = 369$) and teachers ($n = 20$) revealed that the first, second, and third year learners as well as their teachers perceived grammatical accuracy as having a stronger emphasis than they felt they needed. That is, although they recognized the importance of grammatical accuracy, the learners appeared to show a strong concern for accuracy because they wanted to receive a good grade or felt that this concern would be in line with the teacher's expectations. The teachers, in turn, might have overestimated the course requirements and the role of grammatical practice in it. In this study, because the participants were surveyed the very first class of the term, it may be argued that they were not concerned with or did

not have the time necessary to form opinions about the course requirements, the teacher's expectations for accuracy or the evaluation criteria to be involved.

5.3.5 Learner Beliefs and test scores

A series of correlations analyses were run to determine possible relationships between the four beliefs and the overall test scores as well as the beliefs and the test scores across groups. No significant correlations were found, suggesting that, for this group, test results appear to be independent from the beliefs about feedback. This finding reiterates the previous research on the link between learner beliefs and L2 development (Mori, 1999; Tanaka, 2004; Ellis, 2008) in that the amount of learning the students engage in depends, for the most part, on the actions they take to improve their language knowledge, not on their perceptions of what constitutes language learning. This, in fact, speaks to the limitation of the instrument used to measure beliefs in this study. Specifically, the fact that the topic and phrasing of the Likert-style questionnaire items were identified by the researcher and the participants were asked to respond to these "ready-made" constructs questions the extent to which "a construct as intellectually and affectively complex and rich as is one's personal belief system [... can] be fully captured by people's responses to a set of normative statements" (Bernat & Gvozdenko, 2005, p. 7). The use of such a questionnaire, however, allowed for a large number of respondents and ensured a statistically reliable instrument that has helped to uncover an emergent picture of learner beliefs about feedback.

Another reason why no association between beliefs and test scores was identified might have to do with the length of the intervention and the fact that the results obtained from the delayed post-test could not be used. Because the process of learning in general and of a language in particular takes time and effort on the part of the student, it is unlikely that a four-hour intervention could affect the deeply rooted beliefs about learning that the participants held. In fact, the literature on the subject has demonstrated that beliefs about language

learning are embedded in one's personality (Kern, 1995; Langston & Sykes, 1997) and as such, are difficult to change (Weinstein, 1994). Thus, the short exposure to the new teaching methodology could not have altered the participants' beliefs. In fact, Holec (1981) claimed that "a deconditioning process is necessary for students to rid themselves of ineffective and harmful preconceived notions of language learning" (p. 27). Moreover, the fact that only the results of the immediate post-test were compared to the belief scores may also explain the lack of the relationship. This is because the scores of the delayed post test, administered eight weeks after the intervention, might have yielded a connection between beliefs and the test scores. Hence, more research is needed in this area to determine to what extent beliefs can influence learning.

The final reason for why there was no association between beliefs and test scores may be rooted in the amount of dependence the participants seem to feel towards their language teachers. Specifically, having been exposed for much of their academic life to the traditional model of teaching, where the instructor is in charge of the classroom, the learners appear to rely on the teacher not only for corrective feedback in response to the errors they make, but also for information on their learning progress (or lack thereof). The activities used in the course of this study introduced the learners to more opportunities to create and express content, ask questions, and to interact with peers. This new instructional context, albeit brief, may have given the participants a reason to start seeing the teacher more as a facilitator than an authority figure in the classroom (Cotterall, 1995) - the idea that could, in the long run, prompt them to view learning "as a learner-centered and self-regulated process in which proactive participation and initiatives are important" (Amuzie & Winke, 2009, p. 376). This, of course, remains a speculation until empirically observed.

Summary, limitations, and future research

This quasi-experimental study sought to investigate the often assumed yet little investigated relationship between the noticing of corrective feedback and L2 development in relation to learner beliefs about error correction. Specifically, it aimed to (1) uncover the noticeability and effectiveness of three CF techniques (namely, recasts, prompts, a combination of the two) (2) to determine a relationship between noticing of CF and learning of the past tense and questions in the past, and (3) to determine whether learner beliefs about CF mediate what is noticed and learned in the language classroom.

The participants were four groups of high-beginner college level francophone ESL learners ($n = 99$) and their teachers. Each teacher was assigned to a treatment condition that fit his CF style, but the researcher taught the controls. During the experimental intervention, although all the groups participated in meaningful practice that provided and naturally elicited the targeted structures, only the experimental conditions received CF in response to their production problems with the grammatical features investigated. The type of CF provided depended on the teacher's natural corrective strategy. While noticing of CF was assessed through immediate recall and questionnaire responses, learner beliefs about CF were probed by means of a 40-item questionnaire. Learning outcomes were measured by way of picture description and spot the differences tasks administered through a pre-test, post-test, and delayed post-test design. Post-intervention interviews were also conducted with a number of learners ($n = 20$) and the three teachers with the purpose of gathering their perspectives on the study and the tools used. The immediate recall protocols were analyzed for evidence of noticing, based on which overall as well as per target percentage noticing scores were computed for every learner.

In terms of the noticeability of CF, the results revealed that the learners in the Prompt and Mixed (a combination of recasts and prompts) conditions were able to notice significantly more CF overall than those in the Recast group, especially when this feedback targeted errors with the past tense. Furthermore, the learners in the Mixed group noticed more feedback to the two targets than those in the Recast group; the Prompt group differed from the Recast group only on the noticeability of feedback to questions. This suggests that the noticeability of CF is dependent on the grammatical target it addresses (Mackay, 2006; Ammar & Sato, 2010b) and that feedback techniques that push learners to self-correct alone or in combination with target exemplars are more effective in bringing out the corrective intent of a feedback move (Lyster & Mori, 2006). Additional investigations that will compare the noticeability of CF in general and across the CF types to various grammatical features are needed to provide more evidence for the conclusions arrived at here. Future studies might also want to explore the noticeability of CF with different populations and in different instructional contexts. Different tools to measure noticing in addition (e.g., stimulated recall) or in lieu of (e.g., eye tracking software) the immediate recall utilized here should also be employed. A different administration of the immediate tool might also yield different results. Furthermore, the coding of noticing data needs to be carefully considered and the decisions as to the resulting coding system that is coarsely (e.g., Swain & Lapkin, 1995) or finely grained (e.g., Schmidt, 1995, 2001) need to be made.

In relation to the learning outcomes, the past tense overall accuracy levels increased more than that for questions, but the differences between the two targets were not significant across groups. The superiority of the learning gains for the past tense speaks to the difficulties that may arise when different grammatical forms are studied (DeKeyser, 2005) and when L1 grammar affects the acquisition of the L2 targets. Hence, the form-meaning relationship of the past verbs was probably easier for the learners in this study to decipher compared to the opacity of the subject-verb inversion in the questions. The ease

or difficulty of the relationships is arguably exacerbated by the way the participants' L1 treats the two targets in that the irregularity of the English (L2) past verbs can be easily related back to the highly irregular French verb formation rules, but the complexity of the English question formation cannot be explained by the less cognitively demanding L1 rule that allows for questions to be formed by preceding the declarative word order with the question marker "Est-ce que". The reasons for no differences in terms of feedback type may stem from the shortness of the intervention, developmental measures used, and most importantly, from the fact that the delayed post-test results could not be used due to their contamination in the Recast and Control groups. Future research that controls for these difficulties and uses similar and/or different (e.g., phonological, lexical) targets with comparable levels of complexity is needed. These studies should also consider learners of other proficiency levels and L1s.

The direct link between noticing and learning could not be unequivocally established. While the inferential statistics suggested a minimal relationship between noticing and past tense scores, especially if the CF was provided with recasts, but no relationship between noticing and questions scores, the qualitative analyses pointed to an association between noticing and test scores (on both targets) for some learners and gains without noticing for others. These (qualitative) results suggest that noticing may be helpful for some learners to acquire grammatical targets, but it does not appear to be universally necessary. However, this interpretation needs to be viewed with caution in light of the obtained test scores and instruments used to measure noticing. Specifically, the amount of noticing reported on the immediate recall measure may have affected what was and was not noticed. The fact that the "red card" was flashed after a select number of corrective episodes instead of after every episode (Lyster, 2004) might have decreased the saliency of the tool and prevented the participants from reporting more noticing. This, however, should not have affected the treatment conditions differently because the number of the

immediate recall stimuli was equally distributed between the groups. Yet, it is possible that because the students were required to write down, as opposed to orally verbalize, their thoughts during the immediate recall protocols they were unable to either express their thoughts in that format or to provide full descriptions of their ideas. This could have been exacerbated by the limited training in the usage of the tool as well as the manner in which the task was carried out (as a whole class versus individually). In spite of these limitations, this procedure allowed for a maximum participation and was easily integrated within a regular lesson. Furthermore, as discussed earlier, individual differences might have affected the extent to which the participants were able to notice the supplied CF. Conversely, the tasks used in the intervention could have aided in focusing the learners' attention on the targets under investigation. Clearly, additional studies into the relationship between CF, noticing, and learning are warranted. These should consider different populations, proficiency levels, grammatical targets, measures as well as the possible effects of psychocognitive (e.g., aptitude) and affective (e.g., anxiety, motivation) differences in the learners' performance. They should take into account the complexity of relating noticing and learning of form (e.g., Mackey, 2006) and establish sound practices of measuring, coding and linking noticing to learning.

In relation to the beliefs about CF, the participants' responses centered on four underlying constructs: (1) the importance of oral corrective feedback, (2) the expectation for the teacher to provide the correct form in response to an error, (3) the role of self-correction in language acquisition, and (4) affective consequences that CF can carry. While interesting, these results need to be interpreted with caution in light of the limitations associated with the tool used to identify the beliefs. This is because the participants had to respond to the questionnaire items identified by the researcher, which cannot presume to fully capture what the participants believe about CF. Furthermore, the items could have been misunderstood by the participants, producing non-representative findings as a result. This could be corroborated by the fact that only 26 instead

of the original 40 items yielded the belief system outlined here. Despite these shortcomings, questionnaires represent the most common tool to identify beliefs and allow for a large number of people to be surveyed at once. Furthermore, the post-treatment learner interviewers helped to interpret the articulated beliefs. Future research into the learner beliefs about CF would benefit from questionnaires that include an open-ended component (e.g., Loewen *et al.*, 2009) to allow the participants to express their opinions on the topic. Incorporating qualitative-type interviews and/or observations are also likely to provide a more detailed picture of learners' beliefs.

In terms of the link between beliefs and noticing, only the first two beliefs (importance of CF and Recasts as CF technique) were associated with noticing of CF. That is, the more learners believed in the importance of feedback, the more likely they were to notice it in the classroom, especially if the CF was in the form of a recast. A major concern with this finding is that while it represents the opinions of all the participants in the study, it is not clear what the results would have been had the learners assigned to the Control group were given a chance to receive feedback on form. Finally, no relationship was found between beliefs and test scores, suggesting that the test results were not mediated by the beliefs these learners held about the role of CF. Conversely, lack of the connection between beliefs and test scores may have to do with the fact that no analyses could be run on the delayed post-tests for it might be possible that in order for beliefs to affect test outcomes more than four hours of instruction is necessary. As such, future investigations into the relationship between beliefs and noticing of CF as well as beliefs and learning need to account for the effect that the length of instruction may generate. They would also benefit from ensuring that the data are not contaminated in between the testing sessions by designing studies that naturally lend themselves to the research context and allow for changes in the timing of the planned evaluations.

The findings of this investigation not only contribute to our understanding of the relationship between noticing of corrective feedback and

test scores, but they also provide a description of what learners believe about feedback and how these beliefs mediate the noticeability and effectiveness of in-class CF. More specifically, they provide evidence that the choice of the target type and the CF technique facilitate the noticeability and, in the case of the target, effectiveness of CF. Furthermore, this study suggests that positive attitudes towards CF can positively affect such noticing in the classroom. Finally, while there is still no clear evidence that test scores depend on the noticing of feedback, this research succeeds in reiterating the facilitative role of CF in language acquisition in general and in terms of the past tense scores in particular. Of course, supplementary and continued research on the topic will bring the field closer to untangling the complex relationship of noticing and learning and the many factors that may influence the effect that CF has on language development.

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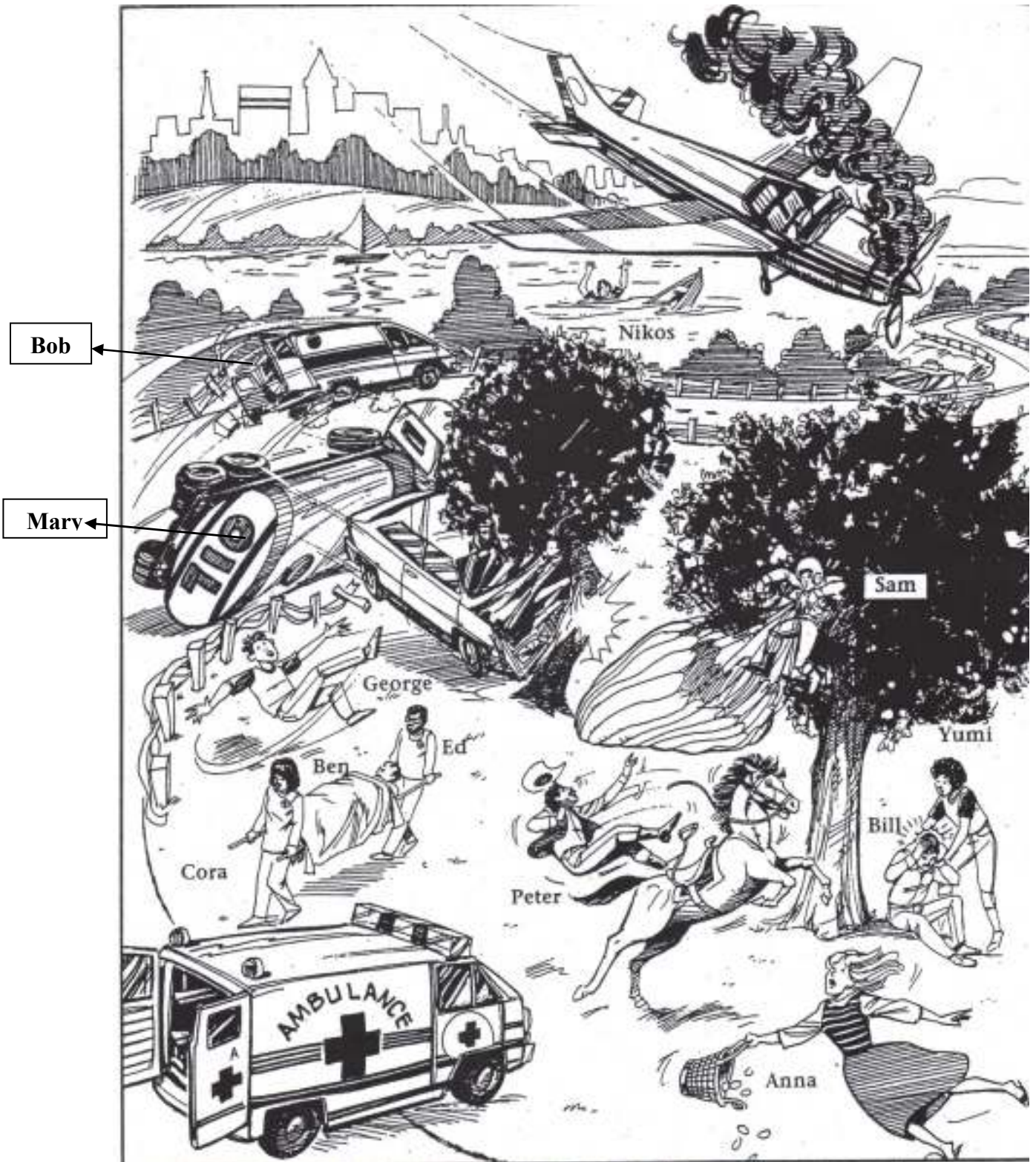
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Appendices

Appendix A: Instruction



Activity 2 : Accidents**Planning chart**

| | Witness account |
|---|------------------------|
| Events you saw | |
| Time you got there/ arrived on the scene | |
| Reason you were on the scene | |
| Your location | |
| People you saw | |
| People who saw you | |
| Your means of getting there | |
| Time you spent there | |
| Additional questions 1. 2. ... | |

Appendix B: Measurements (Noticing)

Name: _____

Part 1: Each time you see the RED CARD, write what you are thinking in relation to the lesson. You can write in English or French. Please use the attached blank sheet of paper if you need more space.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Turn this sheet over if you need extra space.

Name: _____

Part 2: Take a few minutes to reflect about today's lesson:

(Prenez quelques minutes pour réfléchir sur la leçon d'aujourd'hui)

| What did you notice in class today? (list as many things as you can) | | Was this <u>new</u> to you? | | |
|--|-------------------------------|------------------------------------|--------------------|----------------|
| | | YES, new | NO, heard of it | NO, knew it |
| Grammar | 1. 2. 3. ... | | | |
| Vocabulary | 1. 2. 3. ... | | | |
| Pronunciation | 1. 2. 3. ... | | | |


Appendix C: Measurements (L2 development)

asure**What happened¹?**

Write a story using the pictures. Describe what happened to the people in the pictures **YESTERDAY**. Be sure to **use ALL** of the following **10 verbs** in your story **at least once**. *The verbs can be used in any order you like. You can use the verbs more than one time.*

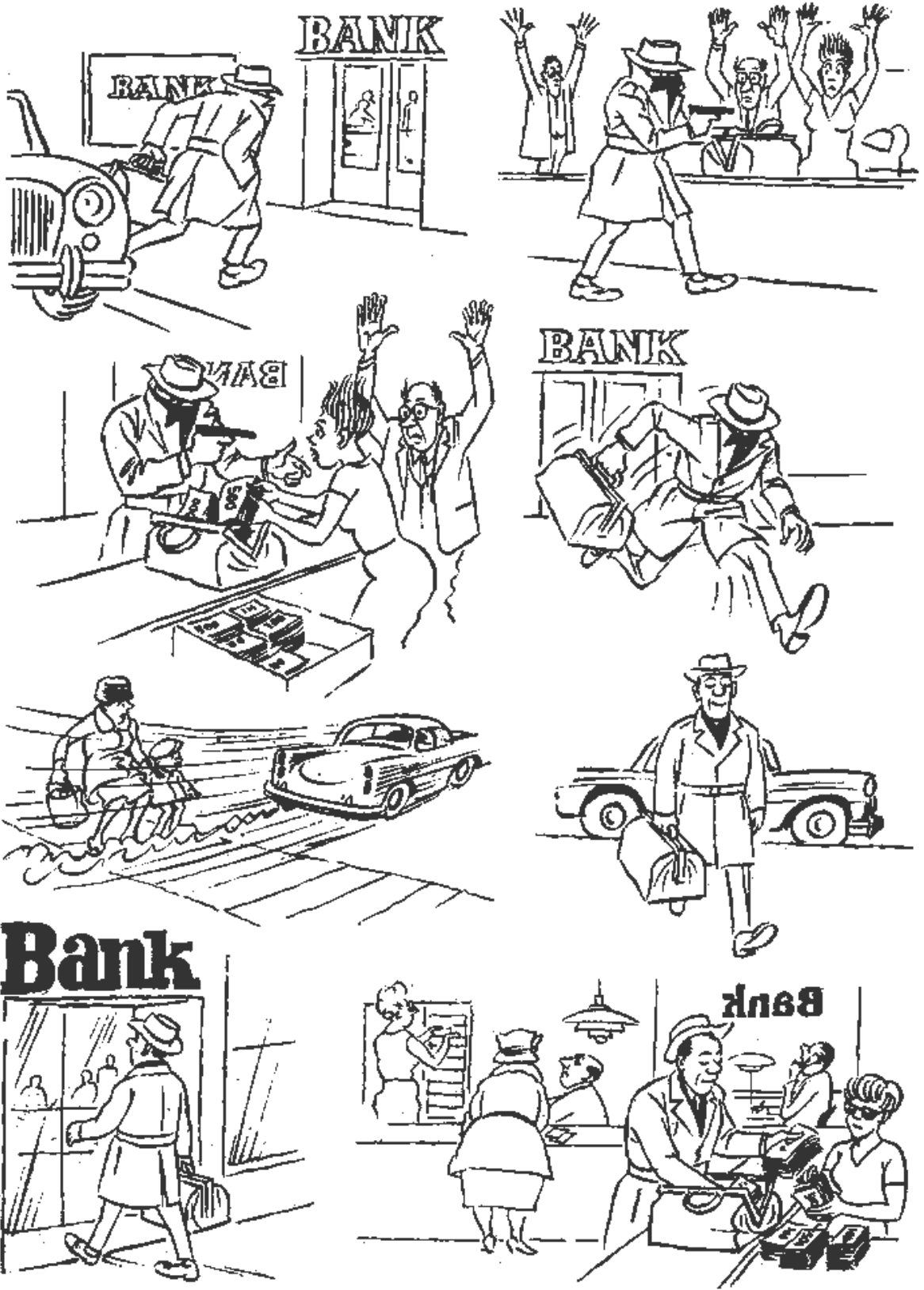
| | | | |
|---------------------------|------------|------------------------------|------------------------------------|
| VERBS: (1) ENTER | (2) TELL | (3) POINT (<i>pointer</i>) | (4) DEMAND (<i>demandeur</i>) |
| (5) LEAVE | (6) PARK | (7) GO | (8) DEPOSIT (<i>déposer</i>) |
| (9) PUT (<i>mettre</i>) | (10) DRIVE | | |

Key words: GUN (*pistolet*)
 BAG (*sac*)
 BANK TELLER (*caissier*)

Start your story **HERE** (*if you need more space, write on the back of this page or ask for another sheet of paper*) 

Yesterday...

¹ Bank: www.bidstrup.ru/content/0908.html




What happened²?

Write a story using the pictures. Describe what happened to the people in the pictures **LAST WEEK**. Be sure to use **ALL** of the following **10 verbs** in your story **at least once**. *The verbs can be used in any order you like. You can use the verbs more than one time.*

| | | |
|--------------------------------|------------------------------|--------------------------------|
| VERBS: (1) ENTER | (2) TELL | (3) LEAVE |
| (4) GO | (5) CLIMB (<i>grimper</i>) | (6) MEET (<i>rencontrer</i>) |
| (7) CROSS (<i>traverser</i>) | (8) WALK | (9) COME |
| (10) STOP | | |

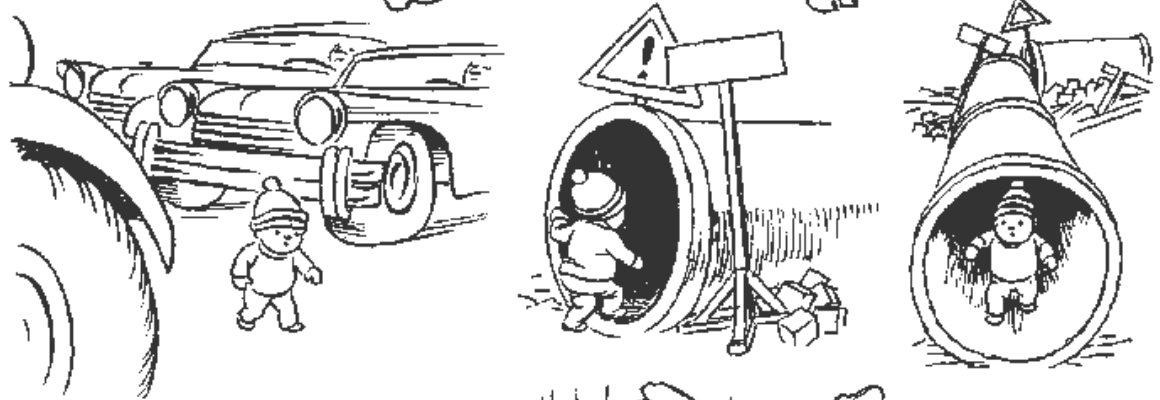
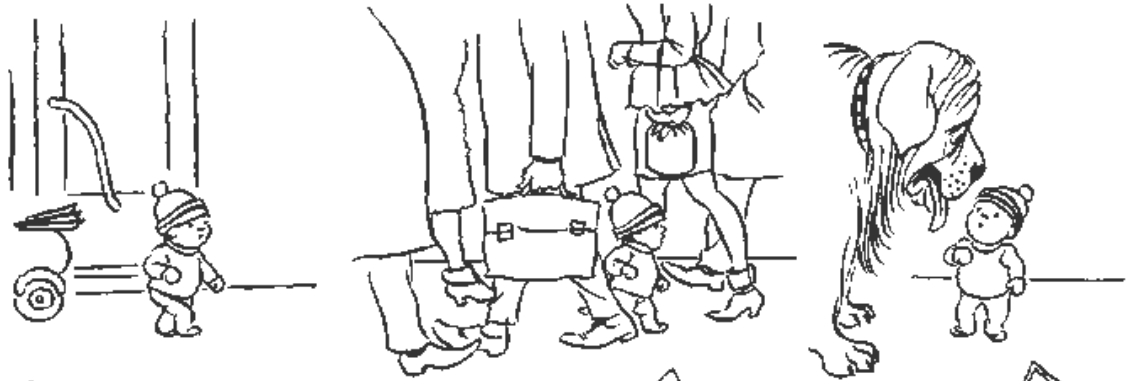
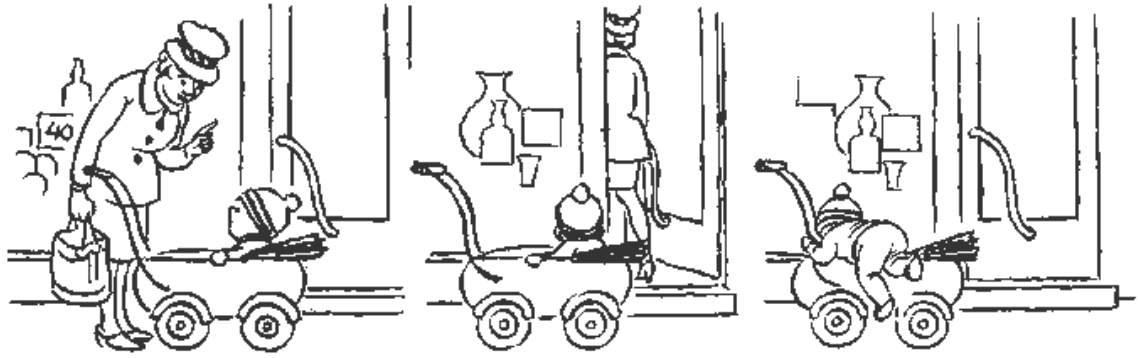
Key words: STROLLER (*poussette*)

PIPE (*égout*)

Start your story **HERE** (if you need more space, write on the back of this page or ask for another sheet of paper) 

Last week ...

² Child: www.bidstrup.ru/content/0106.html



Find the differences³ – STUDENT A

Work with a partner. You both have an account of Andrew Scott's biography, but your accounts are NOT the same. There are **10 differences**.

Your task is to ask and answer questions to find the differences. Put a circle around any differences you find. (But don't tell your partner about them until you have found all 10!). *Only answer the questions your partner asks. Do not give him/ her any additional information.*

DO NOT SHOW YOUR VERSION TO YOUR PARTNER – ALL THE DIFFERENCES NEED TO BE FOUND BY ASKING AND ANSWERING QUESTIONS!

Here are some question words you could use:

Who, What, When, Why, Where, Do, Does, Did, Is, Was

The biography of Andrew Scott

Andrew Scott was born in Brighton (Britain) on June 9, 1955. His father was a policeman and his mother was a tax inspector. He started school when he was five (5) and left school when he was sixteen (16). In August 1972 he started work at a post office in the centre of Brighton. He stayed there for five (5) years. Then in September 1978 he moved to London. He got a new job at a travel agency not far from Buckingham Palace.

Six months later he met Julie Parker at a party. They fell in love and got married on April 26, 1979. Julie was an actress and when she got the chance to work in the United States, Andrew gave up his job and went with her. They stayed in the U.S.A. for eleven (11) years altogether. During this time, Julie made ten (10) movies and was the star of the television series called *Two People*.

Andrew started writing books and in June 1982 his first book called *Brighton Sand* was published. It sold nearly a million copies. A year later, their first child was born. They called him David after Andrew's father. They had two more children while they were in the States – Emily, was born in 1985 and Simon was born in 1987.

In March 1991 they moved back to Britain. They lived in Leeds at first, then two (2) years ago they bought a very big house near Brighton. This is where they live now.

³ Adapted from Watcyn-Jones, P. (1995). *Grammar games and activities for teachers*. London, UK: Penguin Books.

Use the attached sheet to write down the questions you asked. This is to help you keep track of the questions and the differences.

When you have finished, compare your text with your partner's.

Find the differences – STUDENT B

Work with a partner. You both have an account of Andrew Scott's biography, but your accounts are NOT the same. There are **10 differences**.

Your task is to ask and answer questions to find the differences. Put a circle around any differences you find. (But don't tell your partner about them until you have found all 10!). *Only answer the questions your partner asks. Do not give him/ her any additional information.*

DO NOT SHOW YOUR VERSION TO YOUR PARTNER – ALL THE DIFFERENCES NEED TO BE FOUND BY ASKING AND ANSWERING QUESTIONS!

Here are some question words you could use:

Who, What, When, Why, Where, Do, Does, Did, Is, Was

The biography of Andrew Scott

Andrew Scott was born in Brighton (Britain) on July 19, 1955. His father was a policeman and his mother was a real estate agent. He started school when he was five (5) and left school when he was sixteen (16). In August 1972 he started to work at a bank in the center of Brighton. He stayed there for five (5) years. Then in September 1978 he moved to London. He got a new job at a travel agency not far from Trafalgar Square.

Six months later he met Julie Parker while he was on vacation. They fell in love and got married on April 26, 1980. Julie was an actress and when she got the chance to work in the United States, Andrew gave up his job and went with her. They stayed in the U.S.A. for eleven (11) years together. During this time, Julie made twelve (12) movies and was the star of a television series called *Chicago*.

Andrew started writing books and in June 1982 his second book called *Brighton Sand* was published. It sold over a million copies. A year later, their first child was born. They called him David after Andrew's father. They had two more children while they were in the States – Emily, who was born in 1985 and Simon who was born in 1987.

In March 1991 they moved back to Britain. They lived in York at first, then two (2) years ago they bought a very big house near Brighton. This is where they live now.

Use the attached sheet to write down the questions you asked. This is to help you keep track of the questions and the differences.

When you have finished, compare your text with your partner's.

Name: _____

Find the differences – QUESTIONS ASKED (Student A)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

...

Name: _____

Find the differences – QUESTIONS ASKED (Student B)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

...

Find the differences⁴ – STUDENT A

Work with a partner. You both have an account of Julie Parker's biography, but your accounts are NOT the same. There are **10 differences**.

Your task is to ask and answer questions to find the differences. Put a circle around any differences you find. (But don't tell your partner about them until you have found all 10!). *Only answer the questions your partner asks. Do not give him/ her any additional information.*

DO NOT SHOW YOUR VERSION TO YOUR PARTNER – ALL THE DIFFERENCES NEED TO BE FOUND BY ASKING AND ANSWERING QUESTIONS!

Here are some question words you could use:

Who, What, When, Why, Where, Do, Does, Did, Is, Was

The biography of Julie Parker

Julie Parker was born in Glasgow (Scotland) on September 13, 1958. Her father was a lawyer and her mother was a primary school teacher. She started school when she was five (5) and left school when she was sixteen (16). In June 1975 she started work at a store in the centre of Glasgow. She stayed there for three (3) years. Then in September 1978 she moved to London to study acting at the London Academy of Music and Dramatic Art.

Six months later she met Andrew Scott at a party. They fell in love and got married on April 26, 1979. A year later, Julie got the chance to work in the United States. Andrew gave up his job and went with her. They stayed in the U.S.A. for eleven (11) years altogether. During this time, Julie made ten (10) movies and was the star of the television series called *Three People*.

Andrew was a writer and in June 1982 his first book called *Brighton Sand* was published. It sold nearly a million copies. A year later, their first child was born. They called her Mary after Julie's grandmother. They had two more children while they were in the States – David, who was born in 1985 and Simon who was born in 1987.

In March 1991 they moved back to Britain. They lived in Leeds at first, then three (3) years ago they bought a very big house near Brighton (Britain). This is where they live now.

⁴ Adapted from Watcyn-Jones, P. (1995). *Grammar games and activities for teachers*. London, UK: Penguin Books.

Use the attached sheet to write down the questions you asked. This is to help you keep track of the questions and the differences.

When you have finished, compare your text with your partner's.

Find the differences – STUDENT B

Work with a partner. You both have an account of Julie Parker's biography, but your accounts are NOT the same. There are **10 differences**.

Your task is to ask and answer questions to find the differences. Put a circle around any differences you find. (But don't tell your partner about them until you have found all 10!). *Only answer the questions your partner asks. Do not give him/ her any additional information.*

DO NOT SHOW YOUR VERSION TO YOUR PARTNER – ALL THE DIFFERENCES NEED TO BE FOUND BY ASKING AND ANSWERING QUESTIONS!

Here are some question words you could use:

Who, What, When, Why, Where, Do, Does, Did, Is, Was

The biography of Julie Parker

Julie Parker was born in Glasgow (Scotland) on December 3, 1958. Her father was a lawyer and her mother was a police officer. She started school when she was five (5) and left school when she was sixteen (16). In June 1975 she started work at a restaurant in the center of Glasgow. She stayed there for three (3) years. Then in September 1978 she moved to London to study acting at the London Language and Drama School.

Six months later she met Andrew Scott while she was on vacation. They fell in love and got married on April 26, 1980. A year later, Julie got the chance to work in the United States. Andrew gave up his job and went with her. They stayed in the U.S.A. for eleven (11) years altogether. During this time, Julie made ten (10) movies and was the star of a television series called *New York*.

Andrew was a writer and in June 1982 his second book called *Brighton Sand* was published. It sold over a million copies. A year later, their first child was born. They called her Mary after Julie's grandmother. They had two more children while they were in the States – David, who was born in 1985 and Simon who was born in 1987.

In March 1991 they moved back to Britain. They lived in York at first, then two (2) years ago they bought a very big house near Brighton (Britain). This is where they live now.

Use the attached sheet to write down the questions you asked. This is to help you keep track of the questions and the differences.

When you have finished, compare your text with your partner's.

Name: _____

Find the differences – QUESTIONS ASKED (Student A)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

...

Name: _____

Find the differences – QUESTIONS ASKED (Student B)

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

...

Appendix D: Learner beliefs

Présentation

Les questions posées dans ce questionnaire portant sur vos croyances et vos perceptions relatives à anglais langue seconde (ALS), à son enseignement et à son apprentissage. Veuillez, s'il vous plaît, répondre à chacune des questions le plus honnêtement possible. Il n'y a pas de bonnes ou de mauvaises réponses, indiquez simplement ce que vous pensez. Répondez à toutes les questions, la validité de cette recherche en dépend. Vingt minutes environ sont nécessaires pour répondre aux questions.

Sachez que les données recueillies demeureront strictement confidentielles et anonymes. Elles ne seront utilisées que pour fin de notre recherche.

Sincères remerciements pour votre collaboration,

Eva Kartchava
Université de Montréal

Section 2

Veillez indiquer votre degré d'accord ou de désaccord avec chacun des énoncés suivants en encerclant le chiffre qui correspond le mieux à votre choix. (1 = FORTEMENT EN DESACCORD, 2 = EN DÉSACCORD, 3 = INDÉCIS, 4 = EN ACCORD et 5 = FORTEMENT EN ACCORD). Il est important de répondre à toutes les questions.

Exemple:Fortement
en désaccordFortement
en accord

| | | | | | |
|---|---|---|---|---|---|
| Les professeurs doivent enseigner la prononciation en cours (à l'université). | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

Ce choix indique que vous êtes en désaccord avec l'énoncé.

| | | Fortement en désaccord.....en accord | | | | |
|-----|--|--------------------------------------|---|---|---|---|
| 1. | J'apprends quand le professeur corrige les erreurs des autres étudiants de la classe. | 1 | 2 | 3 | 4 | 5 |
| 2. | La correction des erreurs orales en anglais me rend anxieux. | 1 | 2 | 3 | 4 | 5 |
| 3. | Inciter les élèves à se corriger par eux-mêmes est bénéfique pour les étudiants de niveau débutant. | 1 | 2 | 3 | 4 | 5 |
| 4. | Le professeur d'anglais doit corriger les erreurs de grammaire à l'oral seulement si ses erreurs nuisent à la compréhension. | 1 | 2 | 3 | 4 | 5 |
| 5. | En corrigeant les erreurs orales, le professeur ne doit pas utiliser des mots à connotation négative (ex : « Tout ce que tu as dit est faux » ou « tu n'as rien compris » ou « tu ne sais rien »). | 1 | 2 | 3 | 4 | 5 |
| 6. | Fournir la forme correcte est bénéfique pour les étudiants de niveau débutant. | 1 | 2 | 3 | 4 | 5 |
| 7. | La correction des erreurs orales est indispensable en classe d'anglais. | 1 | 2 | 3 | 4 | 5 |
| 8. | L'erreur est un signe de ce que j'ignore encore en anglais. | 1 | 2 | 3 | 4 | 5 |
| 9. | Il faut avoir recours à la correction des erreurs à l'écrit. | 1 | 2 | 3 | 4 | 5 |
| 10. | Il faut utiliser différentes techniques pour corriger les erreurs orales en anglais. | 1 | 2 | 3 | 4 | 5 |
| 11. | Fournir la forme correcte est la meilleure technique pour corriger les erreurs de vocabulaire en anglais. | 1 | 2 | 3 | 4 | 5 |
| 12. | Fournir la forme correcte est la meilleure technique pour corriger les erreurs grammaticales en anglais. | 1 | 2 | 3 | 4 | 5 |
| 13. | Il faut avoir recours à la correction des erreurs à l'oral. | 1 | 2 | 3 | 4 | 5 |
| 14. | Face à mes erreurs orales en anglais, je préfère que mon professeur m'indique de façon explicite que mon énoncé n'est pas acceptable et qu'il me fournisse la forme correcte. | 1 | 2 | 3 | 4 | 5 |

| | | Fortement en désaccord.....en accord | | | | |
|-----|--|--------------------------------------|---|---|---|---|
| 15. | Pousser les étudiants à corriger leurs propres erreurs les aide à acquérir l'anglais. | 1 | 2 | 3 | 4 | 5 |
| 16. | Si le professeur d'anglais ne corrige pas mes erreurs orales, ma détermination d'apprendre l'anglais diminuera. | 1 | 2 | 3 | 4 | 5 |
| 17. | Le professeur d'anglais doit informer l'étudiant des aspects qu'il doit améliorer pour que ce dernier arrive à les maîtriser. | 1 | 2 | 3 | 4 | 5 |
| 18. | Fournir la forme correcte est la meilleure technique pour corriger les erreurs de prononciation en anglais. | 1 | 2 | 3 | 4 | 5 |
| 19. | Mon professeur d'anglais répète toujours mes erreurs orales en ajustant l'intonation de sa voix pour mettre l'erreur en évidence et pour que je la corrige moi-même. | 1 | 2 | 3 | 4 | 5 |
| 20. | Je m'attends à ce que mon professeur corrige mes erreurs de vocabulaire en anglais. | 1 | 2 | 3 | 4 | 5 |
| 21. | Si le professeur laisse les étudiants faire des erreurs au départ, il sera difficile de les en débarrasser plus tard. | 1 | 2 | 3 | 4 | 5 |
| 22. | J'aime que le professeur me corrige en classe d'anglais. | 1 | 2 | 3 | 4 | 5 |
| 23. | Je m'attends à ce que mon professeur corrige mes erreurs de grammaire en anglais. | 1 | 2 | 3 | 4 | 5 |
| 24. | Le choix des techniques de correction des erreurs orales en anglais doit dépendre de mon niveau. | 1 | 2 | 3 | 4 | 5 |
| 25. | Je m'attends à ce que mon professeur corrige mes erreurs de prononciation en anglais. | 1 | 2 | 3 | 4 | 5 |
| 26. | La correction des erreurs orales en anglais est un moyen privilégié pour renforcer la production des étudiants. | 1 | 2 | 3 | 4 | 5 |
| 27. | Les professeurs d'anglais doivent traiter les erreurs orales des étudiants à la fin du cours. | 1 | 2 | 3 | 4 | 5 |
| 28. | Je préfère être corrigé(e) par les autres étudiants de la classe. | 1 | 2 | 3 | 4 | 5 |

| | | Fortement en désaccord.....en accord | | | | |
|-----|--|--------------------------------------|---|---|---|---|
| 29. | Le professeur doit corriger toutes les erreurs orales de l'étudiant en anglais. | 1 | 2 | 3 | 4 | 5 |
| 30. | Les professeurs d'anglais doivent corriger l'erreur orale de l'étudiant tout de suite après qu'elle a été faite. | 1 | 2 | 3 | 4 | 5 |
| 31. | Le professeur d'anglais doit corriger les erreurs orales récurrentes seulement. | 1 | 2 | 3 | 4 | 5 |
| 32. | La correction des erreurs orales en anglais attire mon attention sur la forme correcte donnée par mon enseignant. | 1 | 2 | 3 | 4 | 5 |
| 33. | Inciter les élèves à se corriger par eux-mêmes est bénéfique pour les étudiants de niveau avancé. | 1 | 2 | 3 | 4 | 5 |
| 34. | Je préfère que mon professeur d'anglais m'incite à me corriger moi-même. | 1 | 2 | 3 | 4 | 5 |
| 35. | La pratique de la correction des erreurs orales en classe d'anglais mène à une attitude négative envers l'apprentissage d'anglais. | 1 | 2 | 3 | 4 | 5 |
| 36. | Fournir la forme correcte est bénéfique pour les étudiants de niveau avancé. | 1 | 2 | 3 | 4 | 5 |
| 37. | Sans la correction des erreurs orales en anglais, je ne peux pas faire le lien entre la règle grammaticale et son application. | 1 | 2 | 3 | 4 | 5 |
| 38. | Le professeur d'anglais doit corriger les erreurs de prononciation à l'oral seulement si ses erreurs nuisent à la compréhension. | 1 | 2 | 3 | 4 | 5 |
| 39. | Mon professeur fournit toujours un commentaire ou un renseignement linguistique pour m'aider à me corriger moi-même. | 1 | 2 | 3 | 4 | 5 |
| 40. | Fournir la forme correcte est la meilleure technique de correction des erreurs à l'oral en anglais. | 1 | 2 | 3 | 4 | 5 |

Votre collaboration est précieuse.

Merci d'avoir participé!

Appendix E: Factor analysis

Table 24

Comparison of eigenvalues from PCA and criterion values from parallel analysis (40 items)

| Component number | Actual eigenvalue from PCA | Criterion value from parallel analysis | Decision |
|------------------|----------------------------|--|---------------|
| 1 | 8.884 | 1.9871 | accept |
| 2 | 3.290 | 1.8610 | accept |
| 3 | 2.062 | 1.7682 | accept |
| 4 | 1.796 | 1.6921 | accept |
| 5 | 1.671 | 1.6245 | accept |
| 6 | 1.491 | 1.5661 | reject |
| 7 | 1.364 | 1.5065 | reject |
| 8 | 1.323 | 1.4554 | reject |
| 9 | 1.131 | 1.4077 | reject |
| 10 | 1.100 | 1.3598 | reject |
| 11 | 1.050 | 1.3081 | reject |
| 12 | 1.003 | 1.2593 | reject |

Table 25

Rotated Factor Loadings for Learner Beliefs about CF (40 items)

| Item | Factors | | | | |
|--|---------|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 23. I expect my teacher to correct my grammatical errors in English. <i>Je m'attends à ce que mon professeur corrige mes erreurs de grammaire en anglais.</i> | .714 | | | | |
| 20. I expect my teacher to correct my vocabulary errors in English. <i>Je m'attends à ce que mon professeur corrige mes erreurs de vocabulaire en anglais.</i> | .694 | | | | |
| 25. I expect my teacher to correct my pronunciation errors in English. <i>Je m'attends à ce que mon professeur corrige mes erreurs de prononciation en anglais.</i> | .692 | | | | |
| 16. If the teacher of English does not correct my speaking errors, my determination to learn English will diminish. <i>Si le professeur d'anglais ne corrige pas mes erreurs orales, ma détermination d'apprendre</i> | .663 | | | | |

- l'anglais diminuera.*
17. The teacher of English must inform the student of the aspects that he must improve so that the student acquires them. .634
Le professeur d'anglais doit informer l'étudiant des aspects qu'il doit améliorer pour que ce dernier arrive à les maîtriser.
26. Correction of speaking errors in English reinforces student oral production. .597
La correction des erreurs orales en anglais est un moyen privilégié pour renforcer la production des étudiants.
22. I like it when the teacher corrects me in an English class. .587
J'aime que le professeur me corrige en classe d'anglais.
13. It is necessary to correct speaking errors. .587
Il faut avoir recours à la correction des erreurs à l'oral.
18. Provision of the correct form is the best technique to correct pronunciation errors in English. .587
Fournir la forme correcte est la meilleure technique pour corriger les erreurs de prononciation en anglais.
29. The teacher has to correct all errors students make when speaking in English. .543
Le professeur doit corriger toutes les erreurs orales de l'étudiant en anglais.
7. The correction of speaking errors is necessary in an English class. .537
La correction des erreurs orales est indispensable en classe d'anglais.
14. In light of my oral errors in English, I prefer that my teacher explicitly lets me know that my utterance is incorrect and that he/she supplies the correct form. .532
Face à mes erreurs orales en anglais, je préfère que mon professeur m'indique de façon explicite que mon énoncé n'est pas acceptable et qu'il me fournisse la forme correcte.
30. Teachers of English have to correct speaking errors immediately after they are made. .513

| | | |
|---|------|-------|
| <i>Les professeurs d'anglais doivent corriger l'erreur orale de l'étudiant tout de suite après qu'elle a été faite.</i> | | |
| 10. It is necessary to use different techniques when correcting speaking errors in English. | .502 | |
| <i>Il faut utiliser différentes techniques pour corriger les erreurs orales en anglais.</i> | | |
| 9. It is necessary to correct errors in writing. | .454 | |
| <i>Il faut avoir recours à la correction des erreurs à l'écrit.</i> | | |
| 21. If the teacher lets students make errors from the start, it will be difficult to remedy them later on. | .439 | |
| <i>Si le professeur laisse les étudiants faire des erreurs au départ, il sera difficile de les en débarrasser plus tard.</i> | | |
| 12. Provision of the correct form is the best technique to correct grammatical errors in English. | .496 | -.558 |
| <i>Fournir la forme correcte est la meilleure technique pour corriger les erreurs grammaticales en anglais.</i> | | |
| 11. Provision of the correct form is the best technique to correct vocabulary errors in English. | .511 | -.537 |
| <i>Fournir la forme correcte est la meilleure technique pour corriger les erreurs de vocabulaire en anglais.</i> | | |
| 4. The teacher of English should correct only those spoken grammatical errors that impede comprehension. | .635 | |
| <i>Le professeur d'anglais doit corriger les erreurs de grammaire à l'oral seulement si ses erreurs nuisent à la compréhension.</i> | | |
| 38. The teacher of English should correct only those pronunciation errors that impede comprehension. | .600 | |
| <i>Le professeur d'anglais doit corriger les erreurs de prononciation à l'oral seulement si ses erreurs nuisent à la compréhension.</i> | | |
| 27. Teachers of English should correct students' speaking errors at the end of the class. | .585 | |
| <i>Les professeurs d'anglais doivent traiter les erreurs orales des étudiants à la fin du cours.</i> | | |

| | | |
|---|------|-------|
| 35. Correction of speaking errors in an English class leads to a negative attitude towards the study of English. | .559 | |
| <i>La pratique de la correction des erreurs orales en classe d'anglais mène à une attitude négative envers l'apprentissage d'anglais.</i> | | |
| 28. I prefer being corrected by other students in the class. | .526 | |
| <i>Je préfère être corrigé(e) par les autres étudiants de la classe.</i> | | |
| 31. The teacher of English should correct only the recurrent errors in speaking. | .503 | |
| <i>Le professeur d'anglais doit corriger les erreurs orales récurrentes seulement.</i> | | |
| 2. Correction of speaking errors in English makes me anxious. | .481 | |
| <i>La correction des erreurs orales en anglais me rend anxieux.</i> | | |
| 3. Encouraging learners to self-correct is helpful for students at the beginner level. | | -.715 |
| <i>Inciter les élèves à se corriger par eux-mêmes est bénéfique pour les étudiants de niveau débutant.</i> | | |
| 15. Pushing learners to correct their own errors helps them to acquire English. | | -.699 |
| <i>Pousser les étudiants à corriger leurs propres erreurs les aide à acquérir l'anglais.</i> | | |
| 34. I prefer it when my teacher of English encourages me to correct myself on my own. | | -.639 |
| <i>Je préfère que mon professeur d'anglais m'incite à me corriger moi-même.</i> | | |
| 33. Encouraging learners to self-correct is helpful for students at the advanced level. | | -.648 |
| <i>Inciter les élèves à se corriger par eux-mêmes est bénéfique pour les étudiants de niveau avancé.</i> | | |
| 36. Provision of the correct form is helpful for the advanced students. | | -.647 |
| <i>Fournir la forme correcte est bénéfique pour les étudiants de niveau avancé.</i> | | |
| 40. Provision of the correct form is the best technique to correct speaking errors in English. | | -.638 |
| <i>Fournir la forme correcte est la meilleure</i> | | |

technique de correction des erreurs à l'oral en anglais.

39. My teacher always provides a comment or linguistic information to help me to correct myself on my own.

-.580

Mon professeur fournit toujours un commentaire ou un renseignement linguistique pour m'aider à me corriger moi-même.

32. Correction of oral errors in English attracts my attention to the correct form given by my teacher.

-.529

La correction des erreurs orales en anglais attire mon attention sur la forme correcte donnée par mon enseignant.

37. Without the correction of speaking errors in English, I cannot make the link between the grammatical rule and its application.

-.471

Sans la correction des erreurs orales en anglais, je ne peux pas faire le lien entre la règle grammaticale et son application.

6. Provision of the correct form is helpful for the beginner students.

-.466

Fournir la forme correcte est bénéfique pour les étudiants de niveau débutant.

Table 26

Items excluded from the second (26-item) factor analysis

-
1. I learn when the teacher corrects errors of the other students in the class.
J'apprends quand le professeur corrige les erreurs des autres étudiants de la classe.
4. The teacher of English should correct only those spoken grammatical errors that impede comprehension.
Le professeur d'anglais doit corriger les erreurs de grammaire à l'oral seulement si ses erreurs nuisent à la compréhension.
5. When correcting errors, the teacher should not use negative comments (e.g., « All that you are saying is wrong » or « You didn't understand anything » or « You don't know anything »).
En corrigeant les erreurs orales, le professeur ne doit pas utiliser des mots à connotation négative (ex : « Tout ce que tu as dit est faux » ou « tu n'as rien compris » ou « tu ne sais rien »).
9. It is necessary to correct errors in writing.
Il faut avoir recours à la correction des erreurs à l'écrit.
10. It is necessary to use different techniques when correcting speaking errors in English.
Il faut utiliser différentes techniques pour corriger les erreurs orales en anglais.
13. It is necessary to correct speaking errors.
Il faut avoir recours à la correction des erreurs à l'oral.
24. The techniques used to correct speaking errors must depend on my proficiency level.
Le choix des techniques de correction des erreurs orales en anglais doit dépendre de mon niveau.
27. Teachers of English should correct students' speaking errors at the end of the class.
Les professeurs d'anglais doivent traiter les erreurs orales des étudiants à la fin du cours.
28. I prefer being corrected by other students in the class.
Je préfère être corrigé(e) par les autres étudiants de la classe.
29. The teacher has to correct all errors students make when speaking in English.
Le professeur doit corriger toutes les erreurs orales de l'étudiant en anglais.
30. Teachers of English have to correct speaking errors immediately after they are made.
Les professeurs d'anglais doivent corriger l'erreur orale de l'étudiant tout de suite après qu'elle a été faite.
31. The teacher of English should correct only the recurrent errors in speaking.
Le professeur d'anglais doit corriger les erreurs orales récurrentes seulement.
-

37. Without the correction of speaking errors in English, I cannot make the link between the grammatical rule and its application.

Sans la correction des erreurs orales en anglais, je ne peux pas faire le lien entre la règle grammaticale et son application.

38. The teacher of English should correct only those pronunciation errors that impede comprehension.

Le professeur d'anglais doit corriger les erreurs de prononciation à l'oral seulement si ses erreurs nuisent à la compréhension.

Table 27

Comparison of eigenvalues from PCA and criterion values from parallel analysis (26 items)

| Component number | Actual eigenvalue from PCA | Criterion value from parallel analysis | Decision |
|------------------|----------------------------|--|---------------|
| 1 | 6.948 | 1.7398 | accept |
| 2 | 2.375 | 1.6180 | accept |
| 3 | 1.859 | 1.5305 | accept |
| 4 | 1.463 | 1.4591 | accept |
| 5 | 1.259 | 1.3930 | reject |
| 6 | 1.158 | 1.3295 | reject |
| 7 | 1.011 | 1.2709 | reject |

Table 29

Internal consistency scale for the belief items

| Belief | Number of items loaded (total) | Cronbach alpha |
|---------------------------|--------------------------------|----------------|
| Importance of CF (1) | 10 | .83 |
| Recasts (2) | 6 | .79 |
| Prompts (3) | 5 | .73 |
| Negative consequences (4) | 2 | .51 |

Endnotes

¹Formerly known as the Ministry of Education of Quebec (MEQ), now the Ministry of Education, Leisure and Sport (Ministère de l'Éducation, du Loisir et du Sport, MELS).

² Corrective feedback, referred to as “reactive feedback” in the ESL program, is defined as “when the teacher or peers direct the students’ attention to errors they have made” and is used “to deal with errors contextually as they arise in oral interaction and written communication” (Gouvernement du Québec, 2007c, pp. 40-41). The teachers are instructed to “point out selected errors that could impede understanding of the message and to increase grammatical accuracy” (p. 41). The recommended CF techniques include elicitation, clarification requests, metalinguistic feedback, and repetition. The learners are expected to “integrate the feedback and gradually become aware of their errors and attempt to correct them” (p. 41).

³ Errors usually refer to any deviation from the target language in terms of pronunciation, vocabulary and morphosyntax (Lyster, 1999).

⁴ The “prompt” category in Lyster (2004), for example, includes both implicit and explicit moves (Ellis, Loewen, & Erlam, 2006).

⁵ Explicit recasts include various methods – reduced length or emphasised stress on the part of the utterance being corrected – to alert the learner to the changed elements in the original utterance. Implicit recasts, on the other hand, do not include this added focus and simply provide a targetlike reformulation of the erroneous utterance. Because of this, implicit recasts may be confusing to learners, who might not recognize the intended corrective intention of a recast and instead interpret it as a confirmation of meaning (Lyster, 1998a).

⁶ While social aspects can affect the language learning process, the theories that explain these orientations tend to focus primarily on the *use* of the L2 and *only minimally* address issues of acquisition that concern corrective feedback (VanPatten & Williams, 2007a, p. 13). As such, these perspectives will not be discussed in this report.

⁷ Developed by American linguists in the 1950s, structural linguistics represented a new scientific approach to the study of language, which analyzed samples of spoken language according to the different structures they represented (i.e., phonemes, morphemes, and syntax) rather than according to the traditional classification based on categories of Latin grammar. “Language was viewed as a system of structurally related elements for the encoding of meaning, the elements being phonemes, morphemes, words, structures, and sentence types” (Richards & Rodgers, 2001, p. 55).

⁸ “An outgrowth of the U.S. ‘Army Method’, the Audiolingual Method emerged in the 1950s and borrowed heavily from behavioral psychology and from structural linguistics” (VanPatten & Williams, 2007b, p. 18).

⁹ This refers to the “logical problem of language acquisition” (also known as the “poverty of the stimulus”), which is motivated by the mismatch between the input children are exposed to and their ultimate linguistic achievement (Chomsky, 1986; White, 2007). Specifically, there are three dimensions that contribute to the “problem”: (1) input is limited, (2) input is filled with errors, and (3) input does not provide corrective feedback.

¹⁰ Although some may caution against calling the Monitor Theory a “theory” because the actual processes involved in learning are not actually explained, in contrast to behaviourism, the Theory proposed a language specific model of learning (VanPatten & Williams, 2007b, p. 25).

¹¹ The five hypotheses of Krashen’s monitor model are: (1) the acquisition-learning hypothesis, (2) the monitor hypothesis, (3) the natural order hypothesis, (4) the input hypothesis, and (5) the affective filter hypothesis.

¹² Long-term memory can be differentiated further to include semantic memory – knowledge of facts known to everyone – and episodic memory – privately experienced events (see Tulving, 2002).

¹³ *Detection* refers to registration outside of focal attention or “the process by which particular exemplars are registered in memory and therefore could be made accessible to whatever the key processes are for learning, such as hypothesis formation and testing” (Tomlin and Villa, 1994, pp. 192-193).

¹⁴ It may be argued, however, that clarification requests are different from the other prompting techniques; even though they are output-pushing, they may overlap with recasts which often function as confirmation checks (Loewen & Philp, 2006).

¹⁵ The remaining nineteen participants carried out a delayed post-test instead.

¹⁶ The following tests were done to measure individual differences described herein: (1) a test of phonological memory measuring phonemic coding skills, (2) a test of working memory measuring the executive function of working memory, (3) a test of attention control measuring executive attention management, and (4) a test of analytical ability measuring grammatical sensitivity (Trofimovich *et al.*, 2007).

¹⁷ For Ellis (2001), FFI is “any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic form” (pp. 1-2).

¹⁸ While reactive FFEs refer to feedback *in reaction* to the student's erroneous utterance made by any interlocutor, pre-emptive FFEs involve drawing attention to a potentially difficult linguistic item before it results in error.

¹⁹ With the exception of clarification requests that signal to the learner that the utterance has been misunderstood since these can be more implicit than explicit.

²⁰ The questionnaires were designed to determine: (1) instances when the learners and their classmates were corrected, (2) the target of correction, and (3) instances of language learning.

²¹ Although the two conditions were recalled the least, it is important to note that the recast + repetition condition yielded slightly more recalls than the recasts only condition. Nevertheless, in terms of post-test performance, no significant differences between these two conditions were identified.

²² The feedback was provided verbally during the oral presentations and in writing on the written reports. The errors in writing were circled and the correct version was provided next to the error.

²³ “The NSs were instructed to recast fully any non-targetlike utterance given by the NNSs and to target and recast question forms as much as possible » (Mackey & Philp, 1998, p. 346).

²⁴ In fact, a number of review articles (Nicholas *et al.*, 2001; Ellis & Sheen, 2006) and the meta-analysis of interaction studies (Mackey & Goo, 2007) jointly point out that the learning outcomes yielded in the laboratory and classroom settings vary significantly.

²⁵ “La perception constitue le processus par lequel toute personne ou un groupe de personnes prennent conscience des objets qui leur sont présentés ou des événements qui surviennent” (Gagné, 1979, p. 25).

²⁶ Although Horwitz is usually credited with initiating the study of beliefs about language learning, by some accounts this recognition should go to Papalia (1978), who studied the beliefs of 316 grade 9 students (Bernat, 2004).

²⁷ The Big Five paradigm comprises five broad dimensions that identify the traits that underlie the concept of personality. These include: (1) openness to experience, (2) conscientiousness, (3) extraversion – introversion, (4) agreeableness, and (5) neuroticism - emotional stability (Dörnyei, 2005, pp. 14-18).

²⁸ The five items about error correction were as follows (Loewen *et al.*, 2009, p. 96): “(4) When I make errors in speaking a second language, I like my teacher to correct them; (8)

Teachers should not correct students when they make errors in class; (13) I like to be corrected in small group work; (28) I dislike it when I am corrected in class; [and] (31) When I make grammar errors in writing in a second language, I like my teacher to correct them.”

²⁹ English schools “were allowed to accept only children with a *certificate of eligibility* based on having at least one parent schooled in English at the primary level in Quebec [...] and elsewhere in Canada” (Winer, 2007, p. 492).

³⁰ Despite the early exposure, the time dedicated to ESL remains at 30-60 minutes per week. Furthermore, because Quebec schools are free to adapt regular ESL program to suit the needs of its students, actual implementation of the reform has not been consistent (Winer, 2007).

³¹ But see Collins, Halter, Lightbown and Spada (1999) for a review of different models of intensive ESL programs in Quebec.

³² This, of course, might be different for those who work in the city area, where “even low-level service positions would be enhanced by at least minimal English skills, and it is common to find teenage workers in sales and service positions who are quite fluent in English” (Winer, 2007, p. 503).

³³ The information provided in this section is based on a variety of sources, with the majority of findings originating from the Federation of CEGEPs website, Youth Encyclopedia of Canada, and Wikipedia.

³⁴ In French-medium CEGEPs, English is taught as a second language and in English-medium colleges, French is taught as a second language.

³⁵ It is important to note that there were three people over 40 years of age and eight aged who were older than 30. The mean for age without these participants is 19.8.

³⁶ Learners’ proficiency is tested at the beginning of every course. This practice is adhered to every session by all the English language teachers at the College.

³⁷ Taken verbatim from *Plan de cours (AEX), Anglais programme de base* (Collège Ahunistic).

³⁸ The main objective for this level (in French) is « *Communiquer en anglais de façon simple en utilisant des formes d'expression d'usage courant liées à son champ d'études* » (MELS, <http://www.mels.gouv.qc.ca>).

³⁹ For the two weeks in which the experiment was conducted, the learners were neither given homework nor asked to do lab work.

⁴⁰ All names are fictitious.

⁴¹ The observations were restricted to only one hour per teacher because the classes were preparing for the end-of-term evaluations, which were to be held in weeks 14 and 15, and the teachers felt it was necessary to spend additional time to explain the evaluations to the students and to answer any questions they might have. As such, only one hour was spent on regular in-class activities. It should also be noted that the teachers were firm on not having the researcher observe before or after the week specified.

⁴² It is important to note that the two teachers were able to use technical terms to describe their corrective behaviour because both had pursued and completed a master's degree, having specialized in Applied Linguistics. Albert, in turn, did not report such training.

⁴³ It is important to note that for uniformity-sake, the results from only two "recast" classes were analysed. The choice of which class to drop was done at random.

⁴⁴ To make certain that the teachers understood the instructional activities and to answer any questions about the experiment they might have had, the researcher met with each for a briefing session prior to the instructional intervention.

⁴⁵ The teachers were instructed to correct only the errors with the two targets of interest and to ignore other errors as much as possible.

⁴⁶ Teachers (in the Prompt and Mixed conditions) could choose one prompting technique at a time or a combination. However, as operationalized by the teachers it was always one technique in isolation.

⁴⁷ This is because these learners share a similar L2 system and as such, are less likely to engage in the "negotiation of meaning" (Long, 1996) which by way of meaning-making allows interlocutors to identify gaps in their language knowledge.

⁴⁸ Lexical aspect is usually distinguished from grammatical aspect of the verb. While the former (lexical) refers to the inherent temporal makeup of the verb, the latter (grammatical) refers to an internal versus external perspective on situations (i.e., simple, perfect or progressive aspect) (Yule, 1998, Ch. 3; Bardovi-Harlig, 2000, Ch. 4).

⁴⁹ Although the tasks were not formally piloted prior to the treatment, the researcher has successfully used them in other language learning environments with learners with the same proficiency level.

⁵⁰ This was confirmed by the teachers who have repeatedly taught this level as well as in exit interviews conducted with some of the participating students ($n = 20$).

⁵¹ In comparison to other studies that have used immediate protocol to measure noticing, this study asked the learners to write down their thoughts instead of to verbalize them orally after each pause.

⁵² This was done to ensure that language was not an obstacle in reporting learners' thoughts.

⁵³ For a review on the use of information gap activities in the classroom and research, see Pica (2005).

⁵⁴ Previous studies on past tense have used similar type of activity (e.g., Han, 2002; Ellis *et al.*, 2006, Yang & Lyster, 2010).

⁵⁵ Even through the students were required to ask a minimum of ten questions, there was some variability. Hence, percentage accuracy scores were used in the data analyses.

⁵⁶ This was based on the Cohen's (1988) classification of effect size for group comparisons, where he considered .01 as a small effect, .06 as a medium effect, and .14 as a large effect (Pallant, 2007, p. 247).

⁵⁷ The guidelines for interpreting this value are based on Cohen (1988), cited in Pallant, 2007 (p. 240), and are: .01 = small effect; .06 = moderate effect; .14 = large effect.

⁵⁸ The strength of the relationship was interpreted using Cohen's (1988) guidelines, where $r = .10$ to $.29$ indicated a weak connection, $r = .30$ to $.49$ – medium, and $r = .50$ to 1.0 – strong connection.

⁵⁹ Philp (2003) referred to this as the “learner's processing biases”, which bias learners to comprehend the message over analyzing form or to perceive form in terms of L2 grammar (p. 120).

⁶⁰ The remaining 4 instances were addressed with the regular recast.

⁶¹ The errors in each example are underlined.

⁶² Please see the discussion on instructional context under 5.3. Learner beliefs.

⁶³ The students in the study participated in science activities, during which they received feedback on the simple past and conditional past tense errors.

⁶⁴ Although the game show activity employed was designed to give learners the opportunity to produce language and to receive instructional feedback on the problems with form, one of the activities used at the end of the intervention had an explicit focus: “During the final ten minutes of the game show, the learners were provided with answers to which they had to supply the questions in the style popularized by the game show ‘Jeopardy’ (... e.g., ‘The answer is Bart Simpson. What is the question?’ ‘The question is, ‘Who is Homer’s son?’)” (Mackey, 2006, p. 412).

⁶⁵ All the reports supplied by the students interviewed after the intervention are the translation of the French original.

⁶⁶ This is true of other beliefs studies about error correction. In Loewen *et al.* (2009), for example, the participants viewed grammar instruction and error correction as distinct categories while the researchers saw error feedback as a type of focus on form and by extension, a type of grammatical focus (p. 101).

⁶⁷ When, as part of a television documentary (Courchesne & Laflamme, 2006, cited in Winer, 2007), these teachers were questioned about the low communicative ability among Quebec’s English learners, they blamed the problem on the high curriculum demands for English and the low student proficiency (Winer, 2007).

⁶⁸ This “set of tactics” includes “setting goals, choosing materials and tasks, planning practice opportunities and monitoring and evaluation progress” (Cotterall, 1995, p. 195).

⁶⁹ Ideally, there should be three or more items loading on each component to define a factor vector for two points are not sufficient to define a linear relationship (Child, 2006, p. 64).

⁷⁰ Motivational factors can also override aptitude deficiencies in certain linguistic settings. For example, in context where two languages co-exist (e.g., L1 is a local dialect and L2 is the national language), people generally tend to learn an L2 regardless of the aptitude constraints they may have (Gardner & Lambert, 1972).

⁷¹ To determine this percentage by the combined total of the belief in the importance of CF and recasts as CF (11.5%) was divided by the mean of total noticing (18.76%) and multiplied by 100.