The Role of Corrective Feedback and Individual Differences in Second Language Learning

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Thesis submitted for the degree of Doctor of Philosophy in Applied Linguistics

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July 2019

Abstract

The question of corrective feedback (CF) effectiveness in second language (L2) learning is still under debate. Research has shown that a number of variables can play a role in determining how a certain CF technique works for L2 learning. However, this research has raised more questions that did it answer, especially with regards to how individual differences among learners impact the way CF works for those learners. The present study is an attempt to further our understanding of the topic. It aims at investigating the effects of recasts as one CF strategy on learning English past tense by ESL learners and the extent to which learners' individual differences in anxiety, motivation and attitude might mediate these effects using a methodology that has not been implemented by any other study in this respect. More specifically, the study examined a) whether recasts lead to learner uptake/repair of past tense errors, and if so, whether recasts characteristics (full vs. partial), the part of the target structure (regular vs. irregular) mediate the rate of uptake/repair, b) whether recasts help learners improve accuracy in the use of past tense, and if so, whether recasts effectiveness are mediated by the type of the target structure and learners individual differences.

To this end, 40 participants at a lower-intermediate level in English took part in this study and formed a recasts group (N=20) and a control group (N=20). Learners were involved in 5 treatment sessions with the researcher on one-to-one basis where they completed a number of tasks designed to maximize the chance of producing past tense and receiving recasts when errors occurred in its use in the case of the recasts group. Learners' use of past test was tested three times employing a pre-test, immediate post-test and delayed post-test design. For each testing session, two measures were administered; an oral production measure and a written production measure. To measure learners' individual differences in relation to the three constructs involved in the study, learners completed two questionnaires and their heart rate was monitored using heart rate monitors to detect their anxiety levels.

The results demonstrated that recasts led to a very high rate of uptake following regular and irregular past tense errors, however, the rate of repair was greater for irregular past errors than the regular. Recast characteristics mediated recasts effectiveness with partial recasts generating a higher rate of uptake and repair compared to full recasts. Results of the testing sessions revealed that recasts helped learners improve their accuracy in the use of past tense, in particular for the regular past tense in both the oral and written measures. Moreover, among the three ID factors investigated in this study, only anxiety had an impact on the role of recasts in the oral test only with the low-anxiety recasts group outperforming the control groups in the

delayed post-test. On the other hand, motivation and attitude measured by the four subscales of the AMTB did not seem to impact the way recasts work on the learning of the simple past tense. As such, the present study has fostered current perspectives on the role of CF and ID in L2 theory and pedagogy.

Acknowledgements

I would like to express my gratitude to Hammah University in Hammah, Syria for granting me a scholarship to pursue my postgraduate studies and experience life in the UK.

I would also like to thank Newcastle University for offering me this opportunity to do my PhD.

My sincere thanks go to my wonderful supervisors: Prof. Martha Young-Scholten and Prof. Paul Seedhouse. Without their invaluable comments, insightful feedback and total professionalism over the years, I would not have been able to finish this PhD.

I acknowledge the contribution of all other staff at Newcastle University for their input and advice.

I am also so grateful to all the participants who took part in my study. Without their participation, this research would have never been made possible.

Thanks are also due to my wonderful friends, colleagues and everyone, here in the UK and in Syria, who supported me by any and all means throughout my journey. You have all been a great source of support, inspiration and joy.

'Thank you' would never be enough for my amazing son, Karam, for his patience and understanding. He has been the light in my darkest night and my ultimate source of love and happiness.

Last but not least, I am forever indebted to my wonderful family for their unconditional love, patience and support. They have always been there for me encouraging and aiding me from a distance.

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List of Abbreviations

CALL	Computerized assisted language learning
CF	Corrective Feedback
CN	Control
EFL	English as a foreign language
ESL	English as a second language
FLCAS	Foreign Language Classroom Anxiety Scale
HR	Heart rate
ID	Individual differences
IL	Interlanguage
L2	Second language
MATB	Motivation/Attitude Test Battery
NS/NNs	Native Speakers/Non-native speakers
PhD	Doctor of philosophy
R	Researcher
RE	Recast
S	Student
SD	Standard deviation
SLA	Second Language Acquisition
SPSS	Statistical package for social sciences
T	Teacher
UG	Universal Grammar

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Chapter 1. Introduction

1.1 Overview

This chapter introduces the topic of the thesis, the role of corrective feedback (CF) and individual differences (ID) in second language learning (L2). It starts with shedding light on the theoretical importance of the topic for second language acquisition (SLA) theorists and its pedagogical importance for L2 teachers and methodologists. It also points out the importance of studying learner individual difference factors in L2 learning. The study aims, objectives and contribution to the existing knowledge in the field were motivated by the current status of the topic under discussion and are presented subsequently. The last section of this chapter presents the outline of the thesis.

1.2 The Importance of the Topic

Interest in the role of CF in L2 learning dates back to the 1970s (Allwright, 1975; Chaudron, 1977) where it was defined as "any reaction of the teacher which clearly transforms, disapprovingly refers to, or demands improvement of the learner utterance" (Chaudron, 1977:31). The prominence of CF in second language teaching was earlier emphasized by Krashen and Selinger (1975) when they had reviewed L2 teaching methods that were prevalent at that time and found out that feedback on learners' errors was one of the most common features of all L2 teaching methods used then. Thus, the employment of CF techniques has been relevant to a number of L2 teaching methods, yet, the weight and importance attributed to CF varies among these teaching methods (See chapter 2 for a full review on the role of CF according to different teaching methods and paradigms).

The study of CF has since gained more importance for various reasons, the most important of which is that the topic is of both pedagogical importance for L2 teachers and of theoretical importance for SLA theorists and researchers. Ellis (2010) described the phenomenon as a 'highly researchable phenomenon' (p. 335) when compared to other features of classroom discourse in that it can be easily and reliably detected.

Recasts constitute one of a variety of CF strategies that can be used to deal with learners' errors. Recasts in L2 learning are defined as ''a reformulation of all or part of a learner's immediately preceding utterance in which one or more non-target like (lexical, grammatical, etc.) items are replaced by the corresponding target language form(s), and where, throughout the exchange,

the focus of the interlocutors is on meaning not language as an object" (Long, 2007:2). Below is an example of a recasts incident:

(1.1)

S: Why you don't like Marc?

T: Why don't you like Marc?

Lightbown and Spada (2013)

Different CF techniques have attracted researchers' attention, and while researchers have identified reasons why recasts have gained special attention in L2 learning, they have also suggested why further research is still needed. One reason is their frequency (Ellis and Sheen, 2006). In their seminal work on CF and learner uptake, Lyster and Ranta (1997) documented recasts to have been used 55% by four teachers in French immersion classrooms. A similar rate was reported later in Panova and Lyster (2002). Recasts were also found to be frequently used in ESL classes (50% of total CF in Loewen and Philp, 2006). Sheen's (2004) study compared the occurrence of recasts across a variety of instructional settings and also confirmed their high frequency (they constituted 60% of all CF types used in immersion, ESL, and EFL contexts).

The occurrence of recasts is not limited to instructional settings, but also is a feature of native speaker (NS)/ non-native speaker (NNS) interaction. In Braidi's (2002) study, 15.45% of NS responses to NNS errors were in the form of recasts. This frequency brings about the necessity of a better understanding of why recasts, when and under which conditions do they work better for L2 learning. In addition to their frequency, there are other reasons why the focus of research has been directed to recasts in particular.

1.2.1 Theoretical significance of recasts

Among the reasons behind the significance of the study of recasts are theoretical ones. The study of recasts provides further insights into the role of positive vs. negative evidence in L2 learning, a question that has been debated in the field of SLA (Krashen, 1982; Schwartz, 1993; White, 1991). Of the issues pertinent to the role of recasts in L2 learning are questions about whether recasts constitute positive evidence or negative evidence or both. Positive evidence refers to 'the provision of target-like input', while negative evidence implies 'the provision of a slightly different alternative to learners' original output to signal that an error has occurred' (Goo and Mackey, 2013:129). In other words, positive evidence provides information about

what is grammatical and acceptable in the target language, while negative evidence provides information about what is ungrammatical and unacceptable in the target language.

Researchers have argued that recasts provide negative evidence to language learners when learners perceive their corrective force and notice the difference between the target language and their interlanguage (IL). However, if learners are not consciously aware of the corrective force intended by such feedback as recasts, then recasts are perceived as providing positive evidence only (Nicholas *et al.*, 2001). How learners perceive recasts is another issue that is determined by many factors including, but not limited to recasts characteristics. The debate among SLA theorists concerns the role of negative evidence in L2 learning with rival theories either advocating the important role negative evidence plays in L2 learning or disregarding its role by emphasising that SLA happens when learners are exposed to positive evidence only. Related to this dispute are claims from L1 acquisition literature. Although L1 and L2 acquisition are distinct processes, researchers point at a number of similarities between them (Brown, 1994). If recasts are empirically shown to assist L1 acquisition at least for specific linguistic features (Nelson, 1973; Farrer, 1990), they might also be beneficial for L2 acquisition. Thus, empirical research on recasts can be seen as developing an understanding of the differential effects of positive and negative evidence in L2 learning since recasts can provide either one or both types of evidence.

Furthermore, the study of recasts serves as providing further evidence on the differential effects of implicit vs. explicit CF strategies (Ellis and Sheen, 2006). The argument is centred on whether explicit correction strategies or implicit ones work better for L2 learning. Researchers distinguished between explicit knowledge and implicit knowledge and argue that explicit CF strategies may benefit explicit knowledge only, but not implicit knowledge (Schwartz, 1993). Recasts are viewed as constituting an implicit type of CF and that their beneficial role lies in the function they serve in the context of communicative activities when they draw learners' attention to the target-like forms while not affecting the flow of the task (Long and Robinson, 1998). However, as will be shown in the present thesis, recasts' implicitness/explicitness varies based on their characteristics and how they are operationalized. A study comparing the effects of recasts provided in an implicit way with other more explicit CF strategies or with a more explicit form of recasts can provide evidence on the differential effects of implicit vs explicit error correction. Based on the importance of the topic, intensive research has been conducted to examine the effects of recasts in L2 learning. However, how SLA research findings can inform L2 pedagogy and teaching is another issue that deserves attention and interest.

1.2.2 Pedagogical significance of recasts

The study of recasts yields findings that can be of pedagogical benefits for L2 teaching. Findings of studies on recasts are recommendations that L2 teachers can be guided by in the teaching process. In various studies, recasts in particular have been found to be minimally intrusive in classroom interaction. Recasts can be corrective while at the same time less invasive compared to more explicit CF strategies such as explicit correction and elicitation. This could explain why teachers employ them with a high frequency in their classrooms. The link between theory and pedagogy is an interesting area that is worth further investigation, especially considering that L2 teachers do not always follow recommendations based on SLA research and mostly depend on their teaching experience and intuition in the teaching process. For this reason, more research is warranted to get a better understanding of what aspects of the 'theoretical discourse' are not applicable or feasible to the 'practical discourse' as Ellis (2013) named them since SLA studies have not been fully informative about recasts' pedagogical role.

1.2.3 Significance of the study of individual differences

Individual difference factors affecting L2 learning have only recently been the target of empirical research. Their role in relation to the provision and usefulness of CF has attracted attention of researchers in the field, especially when studies on the role of CF in L2 learning raised more questions than they have answered. In other words, findings of CF studies have been far from conclusive and there is a need to look further into factors and variables that could be responsible for this inconclusiveness. Cognitive and affective variations among L2 learners have been found to mediate the way those learners made use of the feedback provided on their errors (Havranek and Censik, 2001; Sheen, 2008; Mackey *et al.*, 2010; Sheen, 2011). Accordingly, more empirical research is recommended to further investigate these factors.

'Individual differences' is an umbrella term which includes a wide range of factors which have been studied either separately or in relation to each other or to other factors based on their significant role in L2 learning. Examples of such factors are language aptitude, motivation, learning style, anxiety, attitude, working memory, etc. All of these in addition to a number of other factors have been found to impact the learning process and, more pertinent to the purpose of the current study, the way learners benefit from the feedback they receive. Regardless of their importance, it was only until recently that these factors have gained the interest of empirical research. More research is needed to foster our comprehension of how such constructs interact and mediate the CF learners receive in the learning process.

1.3 Statement of the Problem

Empirical research on the effectiveness of various types of feedback and their impact on different areas of L2 has not yet been able to conclusively provide a clear answer to the question of which type of CF works better for which learners under which conditions. Recasts in particular have been the target of a substantial body of research because of their importance as highlighted above. Recasts have been studied either in isolation or in comparison with other CF techniques. Empirical studies on the role of recasts have yielded mixed results. In some studies, recasts' effectiveness has been mediated by recasts' characteristics; short and partial recasts were found to be more effective than long and full recasts (Sheen, 2006; Loewen and Philp, 2006). Moreover, the type of the target structure was found to be a mediating factor; not all types of linguistic structures, for example, were susceptive to recasts (Long *et al.*, 1998; Egi, 2007; Yang and Lyster, 2010). While various reasons were found to have been responsible for the contradictions in the findings of empirical studies, research suggests that these contradictions can be attributed to a great extent to the learners' individual differences (ID).

1.4 Study Aims and Objectives

The present study is an attempt to further our knowledge about the effects recasts have on L2 learning of English simple past tense. Its secondary aim is to investigate whether learner individual difference factors, i.e. their language anxiety levels and their levels of motivation and attitude in and toward the target language mediate the effects recasts have on learning the target structure. The third goal of the present study is to investigate whether recasts are associated with an increase in learners' anxiety level or not. To these ends, the study followed a pre-test-treatment-immediate-delayed-post-tests quasi experimental design with one experimental group (recasts) and one control group. Forty participants learning English as an L2 took part in the study and were involved in communicative activities with the researcher. Their use of the past tense was tested three times to measure the effect of the treatment in relation to their individual differences regarding anxiety, motivation and attitude. Their heart rate was monitored prior and during the treatment sessions where recasts were provided in order to test the effects of recasts on learners' anxiety level. In this respect, the present study is set out to examine, among its other aims, both the effects of anxiety on the role of recasts and the impact of recasts on learners' anxiety level.

1.5 Contribution of the Study

The study aims to contribute to the existing literature by taking into account learner individual differences when investigating how recasts contribute to L2 acquisition. The study's originality lies in its use of a new data collection instrument in investigating learner variables, namely in relation to language anxiety. Whereas in previous studies, data on language anxiety was collected by means of anxiety questionnaires (Horwitz *et al.*, 1986; Gardner, 1985), the current study employed an online measure using heart rate sensors to detect learners' anxiety levels in addition to the anxiety questionnaire learners completed as part of the study. The use of heart rate sensors to measure anxiety level was motivated by the questions raised regarding how reliable and accurate questionnaires could be in measuring affective factors like anxiety. A more detailed justification of the methods used in the study is presented in the methodology chapter. As for its pedagogical contribution, findings of this study are expected to provide insights into whether recasts can be effective in L2 teaching and inform teachers whether they should fine tune their feedback according to learners' individual differences.

1.6 Research Questions

Based on what has been discussed so far, the study sought answers for the following research questions

RQ 1. Do recasts lead to learner uptake and/ repair of past tense errors?

RQ 2. Do recasts have differential effects on learner uptake and/ repair of regular vs. irregular past tense errors?

RQ 3. Do partial vs. full recasts have differential effects on learner uptake and/ repair of past tense errors?

RQ 4 a) Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense - as measured in oral production?

b) Do recasts have differential effects on L2 learners' acquisition of regular vs. irregular past tense?

RQ 5 a) Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense- as measured in written production?

b) Do recasts have differential effects on L2 learners' acquisition of regular vs. irregular past tense?

RQ 6. Does language anxiety influence the effect that recasts have on the grammatical accuracy of L2 learners' English past tense?

RQ 7. Does the provision of recasts have an influence on learners' anxiety levels as measured by their HR?

RQ 8. What is the relationship between learners' motivation/attitude towards English and their improvement in the use of past tense?

1.7 Thesis Outline

This thesis is laid out as follows: the next chapter is a presentation of CF strategies and their characteristics, and the role of CF in L2 theory and pedagogy. Chapter 3 reviews existing literature in the field of CF and L2 learning focusing on recasts in particular. Chapter 4 expands on the literature of individual differences in L2 learning highlighting three affective factors (anxiety, motivation and attitude) which are the main variables in the present study. Chapter 5 details the methodology the researcher followed in conducting the present study covering what

and how data was collected. Chapters 6, 7 and 8 present the results of the present study in relation to each research question and discuss the main findings of the study relating them to the existing, relevant literature. Chapter 9 concludes with a summary of the study findings, highlights the theoretical and pedagogical implications of the present study, its limitations and finally provides suggestions for future research.

Chapter 2. Corrective Feedback in Theory and Pedagogy

2.1 Introduction

This chapter presents an overview of CF strategies and their implementation in second language learning. As discussed in chapter one, recasts, in particular, have attracted researchers' attention in the field and have been studied extensively. However, due to the discrepancy in recasts operationalization across studies, and due to the various methodologies employed in the study of recasts, research has raised more questions than it did answer. Consequently, the need for further research in this area has arisen, which has motivated the current research and allowed us to investigate the role of recasts using a different methodology than the ones used in other studies. This chapter introduces the theoretical underpinnings of the role of CF in L2 learning, highlighting views which advocate or argue against the use of CF in relation to the theoretical framework in light of which the current research was undertaken and should be understood. Pedagogical perspectives on the role of CF in L2 learning is introduced subsequently. Finally, a summary of what has been discussed in this chapter is due.

2.2 CF and Its Types

Feedback is a phenomenon commonly observed in learning contexts. It can be of two types: positive and negative. According to Nassaji (2017), positive feedback indicates the correctness of a learner's utterance in relation to either the meaning or the form of that utterance and is intended to provide learners with affective support. Negative feedback, on the other hand, indicates that the learner's utterance is either communicatively unclear or linguistically ill-formed and needs to be corrected. This is why when correction is expected, the terms 'negative feedback' and 'corrective feedback' have been used interchangeably in the literature. This current thesis will use the term 'corrective feedback'. The importance attributed to each type, however, varies according to the field of study. For example, for SLA researchers, positive feedback has gained little attention, because researchers have found through examining classroom interaction that most of the teachers' positive feedback is ambiguous and unsystematic, while in language pedagogy, positive feedback is seen as very important in motivating learners through the learning process (Ellis, 2009:3). Negative feedback, in contrast, has been a topic of high importance for both SLA theories and pedagogy. SLA researchers have been mainly interested in the cognitive dimension of CF and the processes it triggers to assist L2 acquisition. On the other hand, teachers and teacher educators have been concerned

with the effective aspects of CF and have recommended a careful implementation of CF since it could negatively lead to 'defensiveness' in learners (Nassaji, 2017: 4).

In early classroom research, corrective feedback was defined as "any reaction of the teacher which clearly transforms, disapprovingly refers to, or demands improvement of the learner utterance" (Chaudron, 1977:31). Chaudron's definition, however, is limited in scope in that it confines the source of feedback to the teacher and the context of feedback to the classroom. More recently, researchers have provided more comprehensive definitions under which CF can operate. For example, Lightbown and Spada (2013: 216) define corrective feedback as 'Any indication to a learner that his or her use of the target language is incorrect'. This indication can be initiated by either a teacher or a peer in a learning context or by a native speaker interlocutor in native speaker-non-native speaker (NS-NNS) interactions (Gass, 2003; Nassaji, 2013). Researchers found that corrective feedback is provided not only in response to linguistic errors learners make but also in response to communicative errors that occur during an interaction, through various negotiation and modification techniques. The term 'interactional feedback' has been proposed to encompass such definition (Nassaji, 2007a, 2015).

Researchers point out that CF is a complex phenomenon, the study of which requires clearly defined research agendas (Sheen, 2007). CF can be provided in two modes, oral and written. Oral and written CF are inherently different, which explains why they have been studied separately, with the exception of Sheen's (2010) study which compared their effects and found that it was the degree of explicitness of CF rather than the medium (oral vs. written) which mediated CF effectiveness. Research on written CF, in general, has focused on the overall effects of written CF provided on multiple aspects of L2 writing in students' written work (coherence, content, grammar, organization, etc.) and how CF would aid students in subsequent revisions of their texts (Ashwell, 2000; Chandler, 2003 and Hedgcock, 2005). This complexity of written CF compared to oral CF which 'generally involves drawing attention to form in learners' erroneous utterances as they arise in communicative activities' (Sheen, 2010: 211) explains why the latter has generated a higher rate of research in contrast to the former. Reviewing research on written CF does not fall within the scope of this thesis (See Bitchener and Ferris, 2011; Sheen, 2011 and Nassaji, 2017 for reviews of research on the topic). The following table, taken from Pawlak (2013:97), shows general, fundamental differences between both modes of CF.

Table 2. 1 Key differences between oral and written corrective feedback (based on Pawlak 2006a; Sheen 2010c; Sheen and Ellis 2011)

Oral corrective feedback	Written corrective feedback
Corrective force may not always be clear	Corrective force is usually clear
The feedback is publically available	Feedback only on one's own errors
The feedback is provided online and offline (i.e. immediate and delayed)	The feedback is provided only offline (i.e. it is delayed)
Relatively straightforward focus (i.e. target language form)	Considerable complexity of focus (i.e. many aspects of second language writing)
Both input-providing (e.g. recast) or output-inducing (e.g. clarification request) corrective techniques are available	Both input-providing (direct correction) or output-inducing (indirect correction) corrective techniques are available
The feedback can be explicit (overt) as well as implicit (covert)	The feedback can only be explicit (overt) as the intervention is evident
The correction can be conducted by the teacher, the learner who erred, or a peer	The correction can be conducted by the teacher, the learner who erred, or a peer
Metalinguistic information possible	Metalinguistic information possible
Conversational or didactic	Mostly didactic
Possible direct impact on implicit, procedural knowledge	Only explicit, declarative knowledge affected in the main

Oral CF, which is the focus of this thesis, can be provided through a variety of techniques and strategies. For a better understanding of the role of CF in L2 learning, it is very useful to look at CF types and what each one implies along with supporting examples.

2.2.1 Types of CF

Researchers have identified various CF moves occurring in varying rates and frequencies in an L2 context, be it a classroom context, a dyadic native speaker (NS)-non-native speaker (NNS) interaction or other language learning settings. Lyster and Ranta's (1997) classification is one of the most distinctive and comprehensive categorizations and one that has been frequently cited in the literature. It identifies six CF types documented to have been used by four teachers in four French immersion classrooms in Montreal, Canada. Below is a list of the six CF techniques reported in Lyster and Ranta (1997) along with clarifying examples. All examples were taken from Lightbown and Spada (2013) since Lyster and Ranta's data were in French.

1- *Explicit Correction*: "refers to the explicit provision of the correct form. As the teacher provides the correct form, he or she clearly indicates that what the student had said was incorrect'' (Lyster and Ranta, 1997:46). This can also be found in NS-NNS interaction.

(2.1)

S: The dog run fastly.

T: 'Fastly' doesn't exist. 'Fast' does not take –ly. That's why I picked 'quickly'.

2- *Recasts:* ''the teacher's reformulation of all or part of a student's utterance minus the error'' (Lyster and Ranta, 1997:46).

(2.2)

S: Why you don't like Marc?

T: Why don't you like Marc?

3- *Clarification requests:* As the name indicates, this type of feedback is used to indicate to learners that what they have said is not clear enough or ill-formed and that they need to clarify it further or reformulate it. This includes, but is not exclusive to, phrases such as 'sorry?'; 'pardon'.

(2.3)

T: How often do you wash the dishes?

S: Fourteen.

T: Excuse me?

4- *Metalinguistic Feedback*: This is when the teacher or interlocutor provides metalinguistic information regarding the correctness of the learner's utterance. For instance, when the learner fails to provide an inflected regular past tense in an obligatory context, the teacher/interlocutor says, 'you have to use the regular past tense'. As Lyster and Ranta (1997) point out, this might also take the form of metalinguistic comments or metalinguistic questions. Whatever form it takes, there is no provision of the correct form and it is up to the learner to provide it aided by the teacher's feedback. However, this might not work if the target form is not already within the learner's interlanguage system (IL). This is why the choice of the appropriate CF treatment highly depends on learners' proficiency levels and whether they are 'developmentally' ready for the target form under question.

(2.4)

S: We look at the people yesterday.

T: What's the ending we put on verbs when we talk about the past?

S: e-d

5- *Elicitation:* This feedback is used to elicit a grammatical utterance after the learner had produced a non-grammatical one. It also refrains from providing the correct form. Lyster and Ranta (1997) highlight three techniques teachers use to elicit the target form

from the learner. The first one is when the teacher asks the learner how to say a certain utterance in the target language. The second is when the teacher simply asks the learner to reformulate the original, erroneous utterance. The third is when the teacher initiates his/her turn but pauses to give the learner a chance to 'fill in the blank'.

(2.5)

S: My father cleans the plate.

T: Excuse me, he cleans the----?

S: Plates?

6- *Repetition:* This is when the teacher repeats the learner's error, often with a rising intonation to highlights the error.

(2.6)

S: He's in the bathroom.

T: Bathroom? Bedroom. He's in the bedroom.

This list, however, is by no means exhaustive. Panova and Lyster (2002) added one more element (Translation) to the list. Other CF types could also emerge as a combination of more than one CF type depending on how CF is operationalized in a given context. Further observations of other classrooms or different learning contexts might reveal the existence and implementation of other CF techniques.

For example, Fu and Nassaji (2016) examined the interaction in Chinese as a foreign language classroom context and found that the teacher used a number of new corrective feedback moves. They came up with an extended framework consisting of 12 CF techniques, five of which were not identified in Lyster's immersion context: delayed recasts, re-ask, asking a direct question, directing question to other students and using L1-English

Researchers classified CF types based on their implicitness/explicitness (Long, 1996). Explicit CF strategies clearly indicate to learners that their utterances are non-target like and need to be corrected. Implicit CF techniques, on the other hand, do not clearly state to learners that their utterances are erroneous but rather implicitly indicate that the learner's utterance is problematic. Within a continuum of explicitness/implicitness, Loewen and Nabei (2007:362) regrouped the six CF types identified in Lyster and Ranta (1997) based on who performs the repair into two main categories: self-repair and other-repair (See figure 2.1). In self-repair types of feedback, learners are prompted to reformulate their errors in response to teacher feedback, while in other-repair types of feedback, the correct form is provided to learners, generally by the teacher.

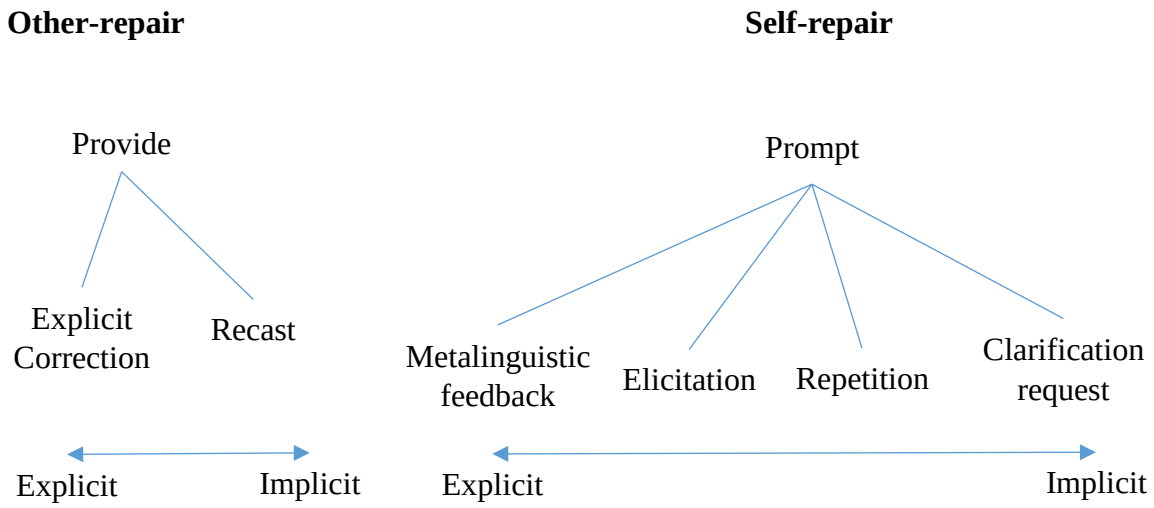

Figure 2. 1 Options for corrective feedback

In addition to the implicitness/explicitness criteria, SLA researchers classified CF strategies based on whether they provide learners with L2 input, or whether they prompt learners to produce target language output. Ellis (2009:8) provided two dimensions of CF strategies. Nassaji (2009, 2015) used the term *'Reformulations'* to refer to all input-providing CF strategies since they rephrase the learner's erroneous utterance into the target language form, and the term *'elicitations'* to refer to all output-prompting CF strategies since they elicit the use of the target language from learners and prompt them to correct their own errors.

Table 2. 2 A taxonomy of CF strategies (Based on Ellis, 2009:8)

	Implicit	*Explicit*
Input-providing	Recast	Explicit correction
Output-prompting	Repetition Clarification request	Metalinguistic explanation Elicitation Paralinguistic signal

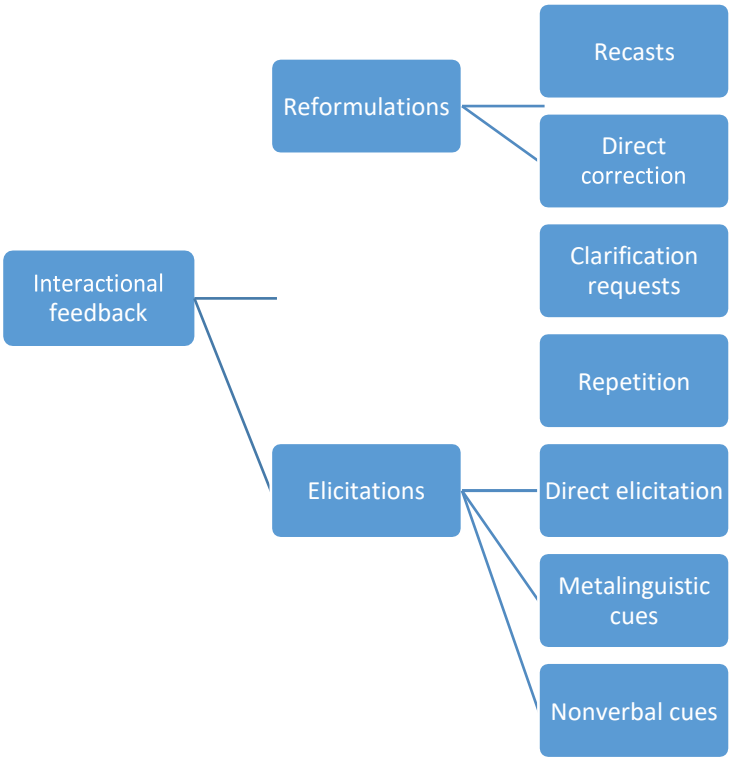

Figure 2. 2 Types and subtypes of interactional feedback (Nassaji, 2015:46)

Regardless of the various classifications and categorizations of CF types, which reflect the complex nature and the multiple functions of CF (Profozic, 2012), their contribution to language learning has been empirically investigated with a bulk of research examining how and under which conditions these CF strategies aid L2 learning.

2.3 Recasts

2.3.1 Definition

Recasts are the most studied CF type and they have gained attention in both first and second language acquisition. Recasts have their roots in the study of L1 acquisition where the term "recast" was used to refer to adults' reformulations of children's ungrammatical utterances. The effects of recasts in L1 acquisition were empirically studied yielding mixed results (Morgan *et al.*, 1995; Bohannon and Stanowics, 1988). Recasts are among the most controversial and debated types of CF since they have been argued to possess different characteristics that are inherently distinguishable. The L2 literature is replete with studies which have examined the role of recasts, most of which have treated recasts as a single CF technique with only a few examining the differential effects of recasts characteristics (Braidi, 2002; Philp, 2003; Sheen, 2006; Loewen and Philp, 2006;). One important reason why

empirical research on recasts has not been conclusive is that there has not been a single definition adopted in all of these empirical studies. Recasts have been operationalized differently across studies, which has made it difficult to compare findings and draw conclusions (see table 2.3 below for how recasts have been defined and operationalized in a number of SLA studies).

Table 2. 3 Definitions of recasts

Reference	Definition
Long (1996: 434)	Recasts are utterances that rephrase a child's utterance by changing one or more components (subject, verb, object) while still referring to its central meaning.
(Long *et al.*, 1998: 358)	Recasts are 'reformulations of all or part of a learner's utterance so as to provide relevant morphosyntactic information that was either missing or wrongly supplied in the learner's rendition while retaining its central meaning'
Lyster and Ranta (1997: 46)	Recasts involve the teacher's reformulation of all or part of a student's utterance minus the error.
Braidi (2002: 20)	A response was coded as a recast if it incorporated the content words of the immediately preceding incorrect NNS utterance and also changed and corrected the utterance in some way (e.g., phonological, syntactic, morphological, or lexical)
Long (2007: 77)	A *corrective recast* may be defined as a reformulation of all or part of a learner's immediately preceding utterance in which one or more nontarget-like (lexical, grammatical, etc.) items is/ are replaced by the corresponding target language form(s), and where, throughout the exchange, the focus of the interlocutors is on *meaning*, not language as an object.
Sheen (2006: 365)	A recast consists of the teacher's reformulation of all or part of a student's utterance that contains at least one error within the context of a communicative activity in the classroom.
Goo and Mackey (2013:129)	recasts are more target-like versions of learners' non-target like utterances

2.3.2 Types of recasts

As we have seen in the sections above, researchers classified recasts as an implicit CF technique since they do not clearly signal to learners that their production is deviant from the target language norms and, consequently, do not interrupt the flow of communication (Long and Robinson, 1998). This is why some researchers have advocated their use in L2 classrooms, especially in communicative contexts where the advantage of recasts lies in their dual function in that they keep students attended to meaning while at the same time draw their attention to form, especially if forms are beyond students' current linguistic level (Lyster *et al.*, 2013). We will expand on the theoretical framework under which researchers have argued in favour of recasts later on in this chapter. On the other hand, researchers have questioned whether it is valid to view recasts "dichotomously" (Sheen, 2006) as either an implicit or explicit CF strategy or to view them as occurring on a continuum of explicitness/implicitness. Research has shown that recasts can take various shapes and be provided in different forms although most studies considered them as a unitary CF type. Recasts' explicitness can be enhanced, and their implicitness reduced depending on the operational definition utilized in their study. Researchers have identified various subtypes of recasts, some of which are presented below. The following is an example of a recast episode in an ESL classroom:

(2.7)

S: I *goed* to school yesterday.

T: You went to school yesterday.

In this example, when the learner produces an erroneous utterance containing a wrongly conjugated past tense form, the teacher recasts this utterance by simply reformatting it and providing the grammatical counterpart without directly pointing out the error.

Recasts can be full when the teacher reformulates the whole utterance, not only the ungrammatical part, or partial/short when the teacher recasts the error only.

(2.8)

Full recast

S: Eighteenth of January

T: Yeah, the eighteenth of January

(2.9)

Partial recast

S: What's feed up?

T: fed

(Sheen, 2006:373)

Recasts can also be single, directed at one error at a time as or multiple, directed at more than one error at a time.

(2.10)

S: She *stay in* home

T: She stays at home

In this example, the learner produces two errors in the same utterance (third-person singular -s is missing, and a wrong preposition is supplied). The teacher's recast incorporates the two grammatical forms at the same time.

Moreover, recasts can be interrogative in nature where the learner's utterance is reformulated in an interrogative form conveying a questioning tone, usually with a rising intonation, or declarative in nature where the learner's utterance is reformulated in a statement (Sheen, 2006).

(2.11)

Declarative recast

S: They just think hypocritic, hypocritic.

T: They are hypocritical.

(2.12)

Interrogative recast

S: Yeah, he know Michael.

T: He knows Michael?

(Sheen, 2006:372)

The list of dichotomies of recasts' characteristics is longer, and therefore, it is not surprising that one of the reasons that make comparisons of studies on recasts very difficult is the fact that recasts have been operationalized differently in the literature (Nicholas *et al*., 2001). See Sheen (2006) for a detailed classification of subtypes of recasts.

2.4 Theoretical Perspectives on the Role of CF in L2 Learning

One of the questions that have evoked debate among L2 researchers and teachers is whether to provide corrective feedback on learners' errors or not. Regardless of the abundance of CF techniques that can be used to deal with learners' errors, contradicting views exist regarding their implementation in language learning. Research on the role of corrective feedback in L2 learning has been motivated by the debate on the role of input in SLA. Some SLA researchers and theorists emphasize that comprehensible input is all that learners need to acquire a second language and downplay the role of grammar instruction and error correction. On the other hand, other researchers point to the case of L2 learners who did not receive form-focused instruction or corrective feedback and who, regardless of their fluency in the L2, lacked accuracy in their production, to argue against the sufficiency of input and to advocate the use of grammar instruction and corrective feedback in L2 learning. Both stances are discussed below, highlighting the theoretical underpinnings of each.

2.4.1 The Nativist approach to L2 learning

According to this view of language learning, the theory of Universal Grammar (UG) that accounts for L1 acquisition is still applicable to L2 learning. This means that the same innate principles that were claimed to be available to L1 learners and are responsible for L1 acquisition are available to L2 learners who acquire the L2, similarly to L1 learners, through exposure to positive evidence only. Accordingly, negative evidence or CF has no role in L2 learning (Schwartz, 1993; White, 1991). Schwartz (1993) argues that CF is of little help for language acquisition as its impact is only superficial affecting performance and has no effect

on the learner's competence. Truscott (1999) supports this argument and adds that CF might lead to only shallow, fleeting changes in learner's performance.

Extending the nativist view of SLA is Krashen's (1981, 1985) 'Monitor Model' Hypothesis. According to this view of SLA, which was prevalent in the 80s in particular, comprehensible input is the only necessary condition that learners need in order to acquire a second language. This implies less emphasis on the role of grammar teaching and error correction in L2 acquisition. Krashen's widely known theory of SLA consisted of 5 main hypotheses: 'The Input Hypothesis', 'The Acquisition-Learning Hypothesis', 'The Natural Order Hypothesis', 'The Monitor Hypothesis' and 'The Affective Filter Hypothesis'.

According to the Input Hypothesis, providing learners with comprehensible input is the only important and adequate external prerequisite for SLA to take place given that the input is one step above the learner's current L2 syntactic level referred to in Krashen's model as i, 'Humans acquire language in only one way-by understanding messages, or by receiving 'comprehensible input'…We move from i, our current level, to i+1, the next level along the natural order, by understanding input containing i+1' (Krashen 1985:2). Input needs to be understood by learners and available to them in sufficient proportions through which the L2 grammar is provided, processed and automatized into learners' interlanguage. According to this, grammar correction and CF cannot aid acquisition because they interrupt the flow of communication and constitute a threat to learners' affect. Hence the 'affective filter hypothesis' complements the input hypothesis by postulating that while rich comprehensible input that is beyond learners' current interlanguage level is what is needed for language acquisition to take place, learners should have a low affective filter to acquire the language. Krashen defines the affective filter as "a mental block that prevents acquirers from fully utilizing the comprehensible input they receive for language acquisition" (Krashen, 1985:3). For the input to be processed by learners, learners should possess a low affective filter. This can be achieved through maintaining a non-threatening learning environment, a key condition of such environment is NOT providing corrective feedback which would influence the learner's affect and ego and might lead her to avoidance techniques, such as to avoid the use of complex structures she is not comfortable with in order not to make errors. In his strong argument, Krashen called this practice 'a serious mistake'.

In 'the acquisition/learning hypothesis', Krashen distinguished between two types of knowledge: learned knowledge and acquired knowledge. Learning occurs consciously as a result of conscious processing of the input, while acquisition takes place subconsciously in a

very similar way to the process children go through to acquire their first language. Learned knowledge is explicit and explainable in that in addition to knowing what is right, learners can explain why something is not acceptable in the target language. This, however, requires time to draw on the explicit rules and metalinguistic knowledge learners have developed about the second language through grammar correction and corrective feedback, and also requires attention to form, which can rarely be achieved in naturalistic, communicative settings. Krashen has argued in favour of acquired knowledge and proposed that input is what is needed for acquisition to occur and CF does not play any role in the acquisition process.

2.4.2 Counter evidence

In response to Krashen's 'input hypothesis', researchers have pointed out the differences between L1 and L2 acquisition (Brown, 1994; Ellis, 1994 based on Bley-Vroman, 1988), and based on these differences, one should not assume that the role of CF in both of these processes should be identical. If we are to believe that L1 acquisition is UG based, and that children acquire their L1 merely through positive evidence and that negative evidence has no role in this process, taking the differences between L1 and L2 acquisition into account (especially with regards to ultimate attainment) implies that one should not assume that same UG principles available to L1 learner are still available (either fully or partially) to L2 learners and that L2 does not benefit from the provision of CF.

However, some researchers who claimed the similarity between L1 and L2 acquisition in terms of UG access still acknowledge the importance and even necessity of the provision of CF to L2 learners in certain cases such as when learners' L1 grammar allows a certain structure which is prohibited by the grammar of the L2. Learners, in this case, would overgeneralize from their L1 (White, 1991; 2003). White (1991) based her claim on a study of L1 French learners learning English as an L2. English and French have different word order regarding adverb placement in the sentence; while English does not allow SVAO word order, French does. In her study, French learners were reported to be incorrectly using SVAO sentences and that they were overgeneralizing from their L1. White argued that in such cases learners inevitably benefit from negative evidence and are not expected to figure it out from the input alone as the input does not include any information about the differences between French and English parameters regarding adverb placement. White backed up her argument through a number of experimental studies whose findings were in support of the necessity of negative evidence in L2 learning (White, 1991; Trahey and White, 1993).

Accordingly, other researchers advocate the use of CF. Their views are based on the assumption that CF helps learners reject false hypotheses they may form regarding the target language, and it protects their IL from internalizing any over-generalized L2 forms learners may tend to overgeneralize, especially if their L1 contains rules that cannot be applied to the L2 (Bley-Vroman, 1986; Chaudron, 1988; White, 1989, 1991). It is also added that the provision of CF is necessary when the input the learner is exposed to is inadequate to make them internalize target-like forms in their IL system (Rutherford, 1987). Researchers advocate the use of recasts in particular as they are considered to be 'unobtrusive' and they do not impede the flow of communication since they provide the correct form while at the same time keeping the meaning of the learner's utterance constant (Long, 1996).

Hence, the role of CF in L2 learning needs to be considered and investigated from a different perspective. As such, several approaches to the role of CF in L2 learning have been proposed in the field. Cognitive theories, in contrast to UG-based theories, value the use of CF and acknowledge its significance in promoting L2 learning. Some of these theoretical perspectives are manifested by the Noticing Hypothesis, the Input Processing Hypothesis, the Interaction Hypothesis and the Output Hypothesis.

2.4.3 The Noticing Hypothesis

Recognizing the necessity of comprehensible input in L2 learning while arguing against its sufficiency and in favour of the use of CF, mainly recasts, Schmidt (1990, 1994, 1995, 2001) proposed 'The Noticing Hypothesis' to highlight the limitations of Krashen's model. The hypothesis states that learners need to notice the target form in the input they receive for them to acquire this form, and that noticing is better achieved through the provision of recasts. Because recasts immediately follow the learner's erroneous IL form, they help the learner compare the two forms, notice the difference between them (noticing the gap), and eventually choose the target one. In the strong version of the Noticing Hypothesis, Schmidt (1994:17) notes that 'noticing is the necessary and sufficient condition for the conversion of input to intake for learning' (P. 17). The same point was emphasized in L1 literature by Saxton (1997) under the 'Direct Contrast Hypothesis', which states that providing the child with negative evidence in the form of recasts immediately after his/her erroneous utterance would draw the child's attention to the 'mismatch' between his/her form and the adult form and lead him to abandon the former and adopt the latter. This theoretical view has been empirically supported by Saxton (1997) and Saxton *et al*. (1998); both studies have reported positive effects

of negative evidence in the form of recasts in improving children's grammaticality and reducing the percentage of errors compared to children who only received positive evidence.

Considering this theoretical assumption about the effectiveness of recasts and the 'noticing' they trigger raises a very important question regarding recasts explicitness. Recasts need to be noticed in order to trigger the cognitive process of comparing the target and nontarget forms. Are recasts always perceived as corrective? Are they always provided in an explicit way that makes it easier for learners to perceive their corrective force? As mentioned earlier in this chapter, recasts explicitness/implicitness varies according to recasts characteristics and the way they are operationalized. Accordingly, their effectiveness also depends on their degree of explicitness/implicitness. Doughty and Varela's (1998) study reported positive effects of 'corrective recasting' on the use of English past tense forms by 34 learners of English as an L2. Recasts, however, were provided in two steps, whereby the teacher repeated the learner's erroneous utterance to draw their attention to the error they made and secondly provided them with the correct grammatical counterparts. The repetition of learners' errors and then providing the correct form with some emphasis has helped learners recognize the corrective nature of recasts. Doughty (1999) later emphasized the importance of accompanying recasts with some clues that help learners spot and identify the error. On the other hand, Lyster (1998) claimed that the 'ambiguity' of recasts provided on gender errors and the difficulty learners had in identifying recasts on morphosyntactic errors, in general, might have been the reasons behind the ineffectiveness of recasts for those learners who might have mistaken them for the teacher's confirmations of their intended meaning.

2.4.4 The Input Processing Hypothesis

Van Patten has also argued against the sufficiency of comprehensible input for L2 acquisition and proposed the 'input processing hypothesis' (IP hereafter) (Van Patten, 1996, 2004a, 2007, 2015). According to this hypothesis, "A good deal of acquisition is dependent upon learners making appropriate form-meaning connections during the act of comprehension", for example, *-ed* means past tense (Van Patten, 2007:115) Learners' ability to attend to both form and meaning at the same time of processing is limited and requires much effort from learners who would prioritize meaning conveyed through lexical items on the expense of attending to grammatical forms when they cannot attend to both at the same time. This is why learners should be directed to attend to form, the thing that can be achieved through the provision of

corrective feedback. Recasts are believed to draw learners' attention to form while at the same time, they do not interrupt the flow of communication and they keep the meaning constant.

In addition to Schmidt and Van Patten theories against the sufficiency of comprehensible input, Long (1996) and Swain (1985, 1995) emphasised that learners in addition to the comprehensible input they receive, should be involved in production and interaction activities for L2 learning to take place and proposed the interaction hypothesis and the output hypothesis.

2.4.5 The Interaction Hypothesis

Following Krashen's Input Hypothesis, Long (1980, 1981, 1983a, 1996) argued that comprehensible input is necessary, but not enough for L2 development to occur. Long did not dismiss the role of input, but rather emphasized the importance of interaction in L2 acquisition. He suggested that for a full understanding of the role of input in L2 acquisition, it is important to look at the interactions in which learners and their interlocutors are engaged with whether in a dyadic interaction setting or in a classroom setting. This interaction is also needed in addition to input and is believed to have benefits for L2 learners. As such, he came up with the 'Interaction Hypothesis' which could be considered the theoretical basis for empirical studies on the role of interaction in L2 acquisition and which draws on Hatch's (1978b) emphasis on the role of interaction in L2 acquisition. In the revised version of the Interaction Hypothesis, Long (1996) stressed the importance of interaction as a 'facilitating' factor in L2 development. He proposed that the linguistic modifications and input rephrasing (negotiation of meaning) which take place during the course of interaction is believed to increase the comprehensibility, and consequently, the usefulness of input for L2 learners. Additionally, providing implicit negative feedback (recasts), which is an important component of this interaction, and the opportunities given to learners, through interaction, to modify their output are believed to be the reasons behind the positive impacts of interaction in L2 acquisition and development. Moreover, and in accordance with the Noticing Hypothesis, interaction, containing a recast component, may provoke learners' noticing of the differences between the input and their IL, a step towards internalizing the new correct L2 form and rejecting the old non-target-like form. Long and Robinson (1998: 23, cited in Ishida 2004: 327) noted that 'such feedback draws learners' attention to mismatches between input and output, that is, causes them to focus on form, and can induce noticing of the kinds of forms for which a pure diet of comprehensible input will not suffice'. Long argued in favour of recasts since they create the ideal conditions to attend to form while the meaning of the learner's original utterance is kept constant.

2.4.6 The Output Hypothesis

Based on research with French immersion students who have been exposed to rich input for a long time, yet still had deviation in their production from the target language both syntactically and grammatically in both spoken and written production, Swain (1985) contended that comprehensible input is not enough for language learning to take place and proposed The Output Hypothesis. Closely related to the Interaction Hypothesis and Noticing Hypothesis, The Output Hypothesis stated that in addition to the negotiated interaction, learners need opportunities for modified output in order to learn the L2. The Output Hypothesis, as a theory of SLA, postulates that learners acquire new forms in the second language when they modify their output as a result of noticing a gap in their L2 linguistic knowledge. Swain attributed the importance of producing comprehensible output in L2 learning to the mental processes associated with production; producing the L2 leads learners to move from semantic processing to syntactic processing. Swain ascribed three functions to modified output in L2 learning: 1- noticing function: when learners notice the gap between what they want to say and what they can actually say in the target language. 2- Hypothesis testing: by producing output, learners are testing the hypotheses they have formed about the target language. When a learner produces something in the target language, he tests his hypothesis and gets feedback from his interlocutor. 3- metalinguistic function: producing the target language helps learners understand rules and form knowledge about the target language. The output hypothesis is relevant to the present study in that it constitutes a theoretical basis behind the assumption that uptake, especially repair is important for the effectiveness of CF.

2.5 Pedagogical Views on CF in L2 Learning

A question that has bewildered L2 teachers is whether to provide CF on their learners' errors, yet, more solid consensus has been found among L2 learners where research investigating L2 learners' beliefs and attitudes towards error correction has revealed learners' preference to be corrected (Chenoweth *et al*., 1983; Ferris, 1995; Hedgcock and Lefkowitz, 1994, 1996; Kim and Mathes, 2001; Lee, 2013; Agudo, 2015). One of the earliest reviews on CF and one that is still addressed in most language teaching handbooks was Hendrickson's (1978). Hendrickson's review raised five important questions that can be said to have summed up the controversy over the provision of CF. The questions are:

1- Should learner errors be corrected?

2- When should learner errors be corrected?

3- Which learner errors should be corrected?

4- How should learner errors be corrected?

5- Who should correct learner errors?

These questions will be explored in further detail below.

2.5.1 Should learner errors be corrected?

The use of both positive and negative feedback in language teaching has been recommended in most teachers' guides investigated in Ellis (2013) although methodologists have argued in favour of positive feedback and warned against the misuse of negative feedback. The weight given to negative feedback however differed according to different teaching methods that were prevalent at a certain time**.** A detailed review of teaching methods and their positions regarding the provision of CF can be found in Nassaji (2015). However, table 2.4 illustrates the role of CF according to a number of language teaching methods.

Table 2. 4 The role of CF in teaching methods

Teaching Method	The Role of CF
Grammar Translation Method (GTM)	Error correction is a fundamental part of the teaching process as the focus is on presenting grammatical rules and practicing them.
The Audio-Lingual Method	Emphasises the significance of error correction since errors are seen as 'bad habits' which need to be prevented.
The Natural Approach	Error correction is seen as 'unnecessary' practice and also as harmful in the teaching process.
The Cognitive Approach	Errors are a significant part of the learning process, and error correction is beneficial in that it helps learners limit their hypotheses about the target language and fosters noticing and attention to form.
Communicative Language Teaching (CLT)	Errors should be tolerated, especially if they do not impede the flow of communication which is considered the main aim of language learning. CF is 'unnecessary'.
Focus-on-Form	CF is so important in that it draws learners' attention to form while their focus is still on meaning.

Generally speaking, task-based language teaching methodologists pointed out the negative effects that negative feedback can have and advised its implementation with caution. It has been argued that, in general, CF can be appropriate in 'accuracy' activities, while if learners are doing communicative activities aimed at increasing 'fluency', CF is not always appropriate since it might have negative effects on learners (Bartram and Walton, 1991; Harmer, 2007; Scrivener, 2005). Moreover, Ur (1996) suggested that while error correction can have benefits, the value of these benefits should not be overestimated since CF often fails to eliminate errors. Ur advised that teachers' efforts should be directed towards helping learners avoid errors in the first place rather than correcting their errors.

2.5.2 When should learner errors be corrected?

Researchers advised that the timing of CF should depend on the type of activity learners are performing. For example, in accuracy activities, CF should be immediate as the focus is on form, while in fluency activities, it should be delayed in order not to interrupt the flow of communication which is the main purpose behind these activities (Hedge, 2000). However, what teacher educators advocate for in this regard does not comply with what SLA researchers have argued for; CF should be immediate even in fluency activities as for CF to be beneficial in helping learners adjust their IL system towards a more target-like form, CF needs to be provided within 'a window of opportunity'. (Doughty 2001 in Ellis 2009). Whether immediate CF is more effective than delayed CF or vice versa is still a question that needs further investigation.

2.5.3 Which learner errors should be corrected?

Researchers have long argued about which types of errors need to be corrected and whether 'focused' correction which is systematically directed at a single type of error works better than 'unfocused' correction targeting a variety of errors at a time. Language teaching methodologists advocated selective correction (Ellis, 2009). Corder (1967) differentiated between errors and mistakes. Whereas an error represents a gap in learners' current level of the L2 competence, a mistake is less significant since it is a performance phenomenon. Errors rather than mistakes should be corrected. However, it is not straightforward to determine what constitutes an error and what constitutes a mistake. Researchers divided errors into 'global' vs. 'local' (Burt, 1975). While global errors occur at the sentence level and can affect the sentence structure, e.g. Wrong word order, local errors occur at the word level affecting only one item in a sentence, like missing third person singular (s). Global errors rather than local errors should be the focus of CF (Hendrickson, 1980). As Sheen (2011:41) noted "these distinctions are not clear-cut and thus difficult to implement in practice…..systematic engagement with selective error correction remains a challenging task for most teachers". SLA research, however, is not always supporting these claims, which in turn suggests that the link between theory and pedagogy is not a direct, straightforward one.

2.5.4 How should learner errors be corrected?

When determining that errors should be corrected, the most related question that comes next is how these errors should be corrected. Teachers' guides are replete with lists of correction strategies that teachers have at their disposal although the general preference in these guides

favoured the use of CF strategies that urge learners to self-correct their errors (Scrivener, 2005) emphasizing also the importance of conducting such corrections in a 'gentle, tactful' manner. However, these guides have failed to provide examples of the application of these CF strategies in real classroom contexts (Ellis, 2013). Researchers investigated the patterns of CF teachers use in their classrooms in an attempt to provide a detailed account of how teachers employ error correction in their classes (Chaudron, 1977; Lyster and Ranta, 1997). Experimental research then focused on examining the role of different CF techniques in L2 learning. A detailed review of empirical research on CF is presented in the next chapter.

Recent research has encouraged the incorporation of more than one CF strategy at a time. As Ellis (2009) has advised in his set of principles he puts forward for teachers to reflect on, teachers can attempt an implicit CF strategy, and if this does not help the learner self-correct his error, he/she can move on to use a more explicit one. "Teachers should monitor the extent to which corrective feedback causes anxiety in learners and should adapt the strategies they use to ensure that anxiety facilitates rather than debilitates" (Ellis, 2009:14).

2.5.5 Who should correct learner errors?

This question deals with the source of CF. There are three possibilities for this question: the teacher, the learner who commits the error, or another learner. Although there has been evidence in the literature that self-correction helps learners improve the L2 (Lyster, 2004), there are certain issues related to self-correction. For example, learners normally express a desire for being corrected by the teacher (Nunan, 1988). Additionally, self-correction necessities that learners are already at a level where they at least have declarative knowledge of the structure where their errors lie. Finally, although CF techniques that advocate self- correction indicate to the learner that there is an error, they don't make it clear whether the error is a linguistic or a communicative one (Ellis, 2009: 7).

2.6 Summary

A review of theoretical and pedagogical accounts of the role of CF in L2 learning has been presented in this chapter in an attempt to further our understanding of the topic. Space and time limitations have prevented a more thorough, comprehensive review of all the theoretical and pedagogical perspectives proposed in the field, yet from what has been covered in this chapter and what is relevant to the present study, the following can be summarized:

- CF is a complex phenomenon, of high significance for both L2 research and pedagogy.
- Teachers' educators and researchers identified a number of CF strategies that can be used in language teaching and learning.
- Recasts have attracted the attention of researchers working on CF in L2 learning.
- Contradicting theoretical accounts were proposed regarding the role of CF in L2 learning.
- Different language teaching approaches and paradigms have different positions regarding the value of CF in L2 learning.
- Discrepancies were found between the views of researchers and teaching practitioners on the effectiveness of CF; researchers argue for the effectiveness of CF during communication, while teacher educators generally do not recommend the use of CF in fluency activities.

Chapter 3. Research on Oral Corrective Feedback (CF)

3.1 Introduction

Regardless of the contradicting theoretical claims about the role of oral corrective feedback (CF) in second language learning as discussed in chapter 2, its importance and assistance for L2 learning has been emphasized by many scholars in the field drawing on theories of language acquisition and on empirical research which back these theories up. Both oral and written CF have been the subject of research. However, these two types are inherently different, which explain why they have been studied separately with the exception of Sheen's (2010) study which compared their effects and found out that it was the degree of explicitness of CF rather than the medium (oral vs. written) which influenced CF effectiveness. Research on written CF in general focused on the overall effects of written CF provided on multiple aspects of writing in students' written work (grammar, organization, content, coherence, etc.) and how CF could aid students in subsequent revisions of their texts (Ashwell, 2000; Chandler, 2003 and Hedgcock, 2005). This complexity of written CF compared to oral CF which "generally involves drawing attention to form in learners' erroneous utterances as they arise in communicative activities" (Sheen, 2010: 211) explains why the latter has generated a higher rate of research in contrast to the former. Reviewing research on written CF does not fall within the scope of this thesis (See Bitchener and Ferris (2011), Bitchener and Storch (2016) for a review of research on the topic).

The last two decades in particular have witnessed an increase in the number of studies on oral corrective feedback in second language learning, and a substantial body of descriptive and experimental studies have been conducted in both laboratory and classroom settings. Empirical research sought to address four key research questions as summarized by Ellis (2013):

1- What are the main CF strategies?
2- 2- Does CF assist L2 acquisition?
3- 3- Which type of CF is most effective in assisting L2 acquisition?
4- 4- Does learner self-correction following CF (i.e. uptake) contribute to L2 acquisition?

Unfortunately, research results were far from conclusive due to a plethora of factors that will be discussed later on in this chapter, and a number of outstanding issues still need to be addressed. In what follows, I will review research on oral CF presenting conflicting evidence obtained from descriptive and experimental studies while evaluating the methodologies

employed in these studies. Factors that are believed to impact on the provision and success of corrective feedback in second language learning are discussed throughout this chapter.

3.2 Corrective Feedback and Uptake/Repair

In early classroom-based research, the term 'uptake', was used to refer to what learners reported to have learned during or after a certain classroom lesson with the aim to evaluate the effectiveness of classroom teaching. (Allwright, 1984; Slimani, 1992). For example, in Slimani's (1992) observational study of classroom interaction, learners had to complete a questionnaire 'Uptake Recall Chart' at the end of every lesson observed in that study. They had to indicate in details all the points they recalled from the lesson that had just finished. This included eight categories: grammar, words and phrases, spelling, pronunciation, punctuation, ways of using the language, suggestions about more effective interaction and others. After a three-hour interval, to allow learners to take in what they thought they had learned from the lesson, learners were presented with their uptake recall charts along with a new questionnaire 'Uptake Identification Probe'. This new questionnaire asked learners to distinguishably mark items, on the uptake recall charts, they believed they had learned for the first time from today's lesson from those items they had already learned, either partially or fully, or encountered in previous occasions.

In CF research, the term 'uptake' then came to be used to refer to learners' responses following the provision of CF. Lyster and Ranta (1997) were the first to tie 'uptake' directly to CF. Ellis *et al*. (2001) took the concept of 'uptake' further to include learners' responses to both feedback and to pre-emptive focus on form by means of students' questions about language forms without the occurrence of an error. They contended that they operationalized 'uptake' as such because sometimes in communicative lessons, learners rather than teachers, initiate attention to a linguistic form by means of asking questions which result in response moves rather than feedback moves. When students acknowledge these response moves, use them in their subsequent speech or react to them in some other way, this still constitutes an uptake according to Ellis *et al.* (2001).

If 'uptake' refers to learners' responses to CF provided on their non-target like utterances, then we need a specific term for successful responses. In their framework, Lyster and Ranta classified uptake as either '*repair'* when learners succeeded in correcting their erroneous utterances after the teacher's feedback, and the term *'needs repair'* when learners failed to correct their original non-target like utterances following the teacher's feedback:

(3.1)

St: La marmotte c'est pas celui en haunt [Error-gender]

T3: Pardon? [FB-clarification]

St: La marmotte c'est pas celle en haunt [Repair-self]

The use of the term 'repair' comes originally from conversational analysis where it was defined as "the treatment of trouble occurring in inter-active language use" (Seedhouse, 1997:548). Other researchers used other classifications to indicate the same meaning. For example, Ellis *et al*. (2001) used the term *'successful uptake'*, when the uptake resulted in repair, and the term *'unsuccessful uptake'*, when the uptake did not result in repair. These terms are still being used in recent studies on the topic (Fu and Nassaji, 2016). The following example from Ellis (2007:348) shows how the student's erroneous utterance triggers the teacher's recast which in turn generates the learner's successful uptake (repair).

(3.2)

Student: …they saw and they follow follow follow him. Trigger

Researcher: Followed Recast

Student: Followed him and attacked him. Uptake (repair)

The presence of uptake as an indication that learning has definitely taken place has been an on-going debated issue. Researchers who believed that uptake is facilitative for L2 learning have based their claims on a number of theoretical assumptions. The relationship between noticing of feedback and uptake has attracted researchers' attention, especially under the influence of the noticing hypothesis (Schmidt, 1990, 1995). Researchers argued that the learner's uptake provides evidence that the learner has noticed the form in the teacher's feedback and noticing is a very important condition for learning to take place.

Another theoretical ground on the role of uptake in L2 learning was driven by Swain's (1985; 1995) proposals on the role of 'modified output' in L2 learning. Researchers suggested that learners' modifications of their output as a result of feedback (i.e. uptake) would help them improve their interlanguage. The claim is that uptake, especially with repair, gives learners the opportunity to use forms they have previously used incorrectly and to revise and test their hypotheses about the second language (Pica *et al*., 1989; Swain, 1993, 1995; Lyster and Ranta,

2013). This practice effect of uptake has also been emphasized by Lyster and Ranta (1997: 57) who stated that uptake, especially with self-repair, helps learners "automatize the retrieval of target language knowledge that already exists in some form (e.g., as declarative knowledge)".

On the other hand, researchers have questioned the validity of the claim that uptake and/ or repair following CF is taken as a measure of L2 learning. Scholars suggested that uptake cannot be taken as an indicator that learning has taken place for a number of reasons. If uptake might entail learners' noticing of feedback, it does not guarantee that they have processed it. The success of uptake does not guarantee or indicate that the learner has acquired the linguistic form he/she incorporated in their uptake. In fact, learners' repair might be a mechanical repetition of the feedback they received without any further processing. The opposite holds true; the absence of uptake and/or repair does not necessarily mean that learning has not taken place (Braidi, 2002; Gass, 1997; Oliver, 2000). Although producing 'uptake' can facilitate language learning through ensuring 'modified output' opportunity, it is not a prerequisite for learning to take place. Empirical research has provided evidence of learners' L2 improvements even in cases where opportunities for uptake were not provided (Leeman, 2003). Moreover, learners' responses are optional discourse moves which learners might not choose. For example, Mackey and Philip's (1998) study showed that L2 development in relation to question formation occurred even when recasts were not incorporated in learners' immediate responses. The researchers suggested that "the responses may be red herrings" (ibid: 338). More recently, Nassaji (2011) examined the relationship between different types of immediate repair (learner- generated self-repair following elicitations and teacher-generated repair following recasts) and L2 learning of targeted forms measured through post-test after interaction. Participants were 42 adult intermediate learners enrolled in an intensive adult ESL programme who interacted with two native speaker teachers. The study also aimed to investigate the relationship between repair that involved repetition of the teacher's recasts versus repair that incorporated the recasts into new and longer utterances and subsequent correction of the same error as it occurred in individualized immediate and delayed post-tests after the interaction. Findings revealed learners' ability to correct in the post-test over half of the error they had repaired during interaction. There was no difference in the degree of correction in the immediate post-test between teacher-generated repair and self-generated repair. On the other hand, in the delayed post-test administered two weeks later, the effects of the self-generated repair remaimed, whereas the effects of the teacher-generated repair decreased, especially, when the repair involved repetition rather than incorporation.

Moreover, researchers argued that the chances of uptake moves may not always be available to learners. This is exactly what happened in Lyster and Ranta's (1997) study when most of the time, teachers continued with their turns without giving students a chance or even expecting them to react to the feedback. Similarly, in Oliver's (2000) study, learners did not have the chance to react after the teacher's feedback. This is because the teacher moved on with the topic most of the time or other interruption incidents occurred. On the other hand, in Oliver's (1995) study, the researcher excluded from the data analysis all instances where there was 'no opportunity' for uptake and thus the study reported a 20% higher rate of responses to recasts 'i.e., uptake'. Goo and Mackey (2013) emphasized the necessity to control for the uptake opportunities when set to compare one type of CF to another since the nature of some types of feedback implies the presence of 'uptake' opportunities (such as prompts, clarification requests, etc.), while recasts for instance, because of their nature might just go without any uptake from the part of the learner. This leads to the conclusion that comparing recasts with other types of CF would be unfair unless opportunities for modifies output are controlled.

In addition, uptake may not occur in the learner's turn that immediately follows the feedback, but rather it might appear later in subsequent turns (Oliver, 1995). Moreover, some experimental studies have reported delayed benefits for feedback by means of delayed post-test scores, benefits which were not clear or confirmed through the immediate post-test (Ellis *et al*., 2006). This means that learners might need sometimes to internalize the CF move and be able to produce it later. Furthermore, not all types of learner responses are equally predictive of interlanguage (IL) development. Responses that range from simple uptake to modified output to repair have been found to be differentially associated with subsequent language learning.

As discussed above, the weight given to 'uptake' as a measurement of CF effectiveness has been criticised by researchers who have advocated the dissociation between learners' immediate responses and subsequent L2 learning. As Mackey and Philip (1998) put it 'We argue for a longer-term perspective on learner development than immediate use' (p. 342). This fact necessitates the employment of other complimentary methods to measure recasts effectiveness as Ellis *et al*. (2001) put it "To obtain evidence of acquisition, it would be necessary to demonstrate that the learners possess the autonomous ability to use the feature, for example by investigating whether they can produce the form correctly on subsequent occasions without prompting'' (P. 287).

3.2.1 Descriptive studies on oral CF

Early studies on oral CF were distinguished by their descriptive nature. These were also called observational studies, and were carried out in both laboratory and classroom settings. Researchers in the 1990s focused on examining the types/patterns of CF available to learners during L2 interaction, which of these types induced the highest rate of learners' responses, generally known in the literature as learners' 'uptake', and which ones resulted in successful uptake, referred to in the literature as 'repair'.

CF effectiveness was measured in different ways in these descriptive studies. For example, researchers took the responses CF generated from learners as an indicator of their effectiveness. ''The main immediate measurement of effectiveness of any type of corrective reaction would be a frequency account of the students' correct responses following each type'' (Chaudron, 1977: 440). Advocates of this means of measuring CF effectiveness were influenced by second language acquisition theories on the role of modified output and noticing in L2 learning discussed earlier in chapter 2 (Swain, 1995, 2005; Schmidt, 1990, 1995; Long, 1996; 2007; Gass, 2003). Although the use of learners' responses as a yardstick to measure learning has invited criticism as just discussed above, there has not been compelling evidence that uptake is not an indicator of language learning.

Driven by these theoretical claims about the importance of uptake in second language learning, a number of observational studies were carried out to empirically investigate oral corrective feedback and learners' uptake in L2 learning. The earliest ideas on CF emerged from descriptive studies of Canadian French immersion classroom contexts, particularly Chaudron's (1977) study (see also Chaudron, 1986, 1988; Hamayan and Tucker, 1980). In his 1977 study, Chaudron observed teachers' CF to students in an attempt to provide a detailed model of the discourse taking place in that context, and to identify which CF types generated the highest rate of learner responses. Data from three French immersion classrooms (Grades 8 and 9) revealed that teachers used more than thirty different CF types, the most frequent of which was repetition with its four types (repetition without change, repetition with change, repetition without emphasis, repetition with emphasis). The study found that while most of the teachers' CF went unnoticed, some CF types (repetition with emphasis) led to learner uptake. More importantly, repetition with change, but without emphasis (what came to be later categorized as recasts) did not lead to uptake as they were lacking 'saliency' and did not make it clear where the error is.

The high frequency of recasts in L2 classrooms was also documented in Doughty's (1994) study of adult beginner learners of French as a foreign language. Unlike Chaudron's (1977) study, Doughty reported beneficial effects of recasts in her study. Recasts in this study were operationalized as "response to an utterance that incorporates content words of the utterance, but also changes the utterance in some way (e.g., phonological, syntactic, lexical) but without adding any information" (p.102). Three two-hour interactional classes totalling six hours of audio and video-recorded classroom interaction were analysed. The analysis revealed that almost half of the learners' errors received teacher CF moves, the most frequent of which was recasts. Generally speaking, CF resulted in a low rate of learner uptake; only 72 responses to teacher feedback compared to 495 'no responses'. However, when CF did lead to uptake, it was the teachers' recasts which generated learner responses; 62 responses to recasts, of which 61 was successful.

In a few more descriptive studies carried out later, recasts were also observed to be the most used CF type, but the least to lead to learners' immediate uptake (Lyster and Ranta, 1997; Havranek, 1999; Panova and Lyster, 2002). Lyster and Ranta (1997) observed four primary level French immersion classrooms (grades 4 and 5) with their teachers and collected 18.3 hours of audio-recorded classroom interaction. In developing their coding scheme, Lyster and Ranta started by combining categories from the COLT Part B coding scheme (Spada and Frohlich, 1995) with categories from Doughty's (1994a, 1994b) studies of fine-tuning feedback. While adjusting these combined categories to suit their data set, researchers developed other categories, and these final six categories were identified: 1. explicit correction; 2. recasts; 3. requests for clarification; 4. metalinguistic feedback; 5. Elicitation; and 6. repetition. They investigated learners' responses to each of these CF types (uptake), which was operationalized 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 (this overall intention is clear to the student although the teacher's specific linguistic focus may not be)' (p.49). So, in their model, 'uptake' could include any move from the learner in response to the teacher's CF even if it does not incorporate a correction of the original erroneous utterance, i.e. a full repair. They found that recasts were the most frequent type of CF teachers tended to use among the other six types examined in their study. Recasts constituted 55% of the CF used, whereas other CF types occurred in much less frequency: clarification request 11%; explicit correction 7%; repetition 5%; metalinguistic feedback 8% and elicitation 14%.

However, regardless their frequency, recasts were ineffective in leading to learners' uptake or 'repair' which was operationalized as 'the correct reformulation of an error as uttered in a single student turn and not to the sequence of turns resulting in the correct reformulation'. (p.49). Recasts led to only 31% of learner uptake, 18% was successful repair. Instead, the other less frequently used CF techniques (elicitation, metalinguistic feedback, explicit correction, repetition and clarification request) were more useful in leading to 'student-generated repair' (46%, 45%, 36%, 31%, 28%) respectively.

However, Lyster and Ranta's findings should be interpreted with caution. To conclude that recasts are ineffective just because they have not elicited a high rate of learner responses seems to be a strong statement. Lyster and Ranta acknowledged that recasts in their study were not always followed by uptake opportunities as teachers continued with their turns without ensuring a chance for students' responses to feedback. This, however, was not the case for other CF types, elicitation for instance. Elicitation by nature entails that the student always has a chance to respond to teacher's feedback.

While Lyster and Ranta (1997) examined the distribution of CF types and learner responses to different CF types in French immersion classrooms, Lyster (1998a) study set out to answer questions uncovered in Lyster and Ranta (1997) about the relationship between CF type, error type and learner repair. The study reported that teachers' feedback differed according to the type of error. In general, the tendency was to use recasts for both grammatical and phonological errors, whereas 'negotiation of form' was mostly used for lexical errors. 'Negotiation of form' was a category under which Lyster classified four interactional moves: elicitation; metalinguistic clues; clarification requests and repetition, which all differed from recasts and explicit correction in that 'they provide learners with signals that facilitate peer-and self-repair rather than with mere rephrasing of utterances' (p.273). (72% of grammatical errors and 64% of phonological errors were followed by recasts, while only 38% of lexical errors were followed by recasts. on the other hand, 55% of lexical errors received negotiations and only 27% of grammatical errors and 23% of phonological errors received negotiations). More importantly, the study found that learners' repair of their errors following feedback varied according to the type of error. Recasts which teachers provided for grammatical errors were not likely to generate learner self-repair in contrast to recasts provided on phonological errors. However, Lyster interpreted these results by suggesting that phonological errors were less frequent and as such, invited fewer instances of recasts. Also, these phonological errors

occurred during a reading aloud activity. This might have rendered recasts provided on these errors more salient, and helped learners notice the corrective force of teachers' recasts and consequently, repair their errors in response to them. On the other hand, Lyster speculated that the ineffectiveness of recasts in relation to grammatical errors might be due to the fact that recasts are less likely to draw learners' attention to their non-target like output as they 'risk being perceived by young learners as alternative or identical forms fulfilling discourse functions other than corrective ones''. (p.290) given that the context was a content-based immersion classroom. In contrast to recasts, students tended to self-repair their lexical and grammatical errors more following negotiation of form. Because negotiation of form implied learner's modified output, it draws learners' attention to their non-target like output and pushes them to modify it.

Panova and Lyster (2002) study examined patterns of corrective feedback and learners' uptake and immediate repair in adult ESL classroom. The aim was to find out whether Lyster and Ranta' (1997) analytic model of corrective discourse in immersion classrooms is applicable in a different instructional context with different subjects. Analysing 10 hours of transcribed interaction based on Lyster and Ranta's 1997 categorization of CF types and error treatment sequence, the study revealed similar patterns to those observed in Lyster and Ranta That is, teachers tended to frequently use implicit CF types like recasts (55%) and translation (22%) compared to other CF types (clarification requests (11%), metalinguistic feedback (5%), elicitation (4%), explicit correction (2%) and repetition (1%). The high frequency of recasts reported in this study echoed findings of other observational studies discussed above (Doughty, 1994; Lyster and Ranta, 1997). As for the relationship between CF type and uptake and repair, generally speaking, the rates of uptake and repair following CF were low in this study. Clarification requests, elicitation and repetition invited the highest rate of uptake (100%). Next came metalinguistic feedback (71%), recasts (40%), explicit correction (33) and translation (21%).

As for the rate of repair, the lowest rate of repair followed recasts, translation and explicit correction (13%, 4% and 0%) respectively, while the highest rate of repair followed repetition and elicitation (83% and 73%) respectively, followed by metalinguistic feedback (29%) and clarification request (23%). The researchers attributed the high frequency of recasts and, to a less degree, translation in their study to the low proficiency of learners, which led teachers to prefer using recasts as they provide examples to the class of a target form and do not overload learners with the task of figuring target forms themselves. As for the lesser advantage reported

for recasts compared to other CF types in this study, researchers concluded that ‘’L2 learners may benefit more from retrieval and production processes than from only hearing target forms in the input’’ (Panova and Lyster 2002, p. 573). In other words, findings of Panova and Lyster’s study favoured the use of output-pushing CF types, such as elicitation in contrast to input-providing types, such as recasts. Table 3.1 below summarizes the similarities and differences between Lyster and Ranta 91997) and Panova and Lyster (2002):

Table 3. 1 Comparison of Lyster and Ranta (1997) and Panova and Lyster (2002)

Similarities	Differences	
	Lyster and Ranta (1997)	Panova and Lyster (2002)
Recasts were the most frequently used type of CF	French immersion classroom context	ESL classroom context
A higher rate of uptake and repair following CF types that promote learner responses than reformulative forms (recasts for instance) that provide the target form	Content-based L2 instruction	Communicative language teaching
	Children learners	Adult learners
	Intermediate proficiency level	Beginner proficiency level
Proficiency level affects the choice of CF and also rate of uptake and repair	Overall, higher rate of uptake and repair in response to CF	Overall, lower rate of uptake and repair in response to CF

3.2.2 Counter evidence

In contrast to the immersion or content-oriented contexts discussed above, Ohta’s (2000) study was conducted in a classroom where “a strong focus on form was maintained throughout teaching and learning activities, with explicit grammar lectures once a week, and instructional activities and peer learning tasks designed to target particular grammatical structures and vocabulary” (p.55). Ohta investigated reaction to recasts by ten learners of Japanese as a foreign language. She focused on the use of ‘private speech’ in response to teachers’ feedback during form-focused interaction. Ohta defined private speech as ‘oral language addressed by the student to himself or herself’ (p.52). To record private speech, each individual student had to wear a small lapel microphone during the interaction. Analysis of 34 hours of transcribed audio-recorded interaction revealed instances of private speech in response to recasts. Students responded to recasts both when recasts were directed to their own errors (when learners were addressees) and when they were directed to other students’ errors (when learners were

auditors). Most importantly, Ohta found that learners produced private speech in response to recasts more often when recasts were provided to other students than when they were directed to their own errors. Ohta (2001) explained that the importance of 'private speech' stems from the fact that "it provides us with a window on learners' cognitive processes that are part and parcel of language learning" (p. 160). Although Ohta's study constituted evidence of the saliency and effectiveness of recasts even for learners who are not the recipients but rather observers of recasts, Nicholas *et al.* (2001) concluded that Ohta's study should be interpreted with caution. There were two factors which might have helped students notice and react to recasts in this study. One of them was that the mere existence of individual microphones might have drawn learners' attention to the fact that their production was being recorded. Additionally and more importantly, the context of the study was a language-focused environment where students were concerned about accuracy rather than meaning and their attention was constantly drawn to language forms. As Nicolas *et al*. (2001) noted ''there may have been additional features in Ohta's study that contributed to the learners' ''readiness'' to attend to the responses from the teacher'' (p. 742)

Again, in a form-focused context, Ellis *et al*. (2001) carried out a study in an adult ESL classroom context in New Zealand to investigate teachers' feedback and 24 students' reaction to feedback. Ellis's study extended previous research on oral CF, but differed from most previous studies discussed so far with respect to the context of research. While most studies discussed earlier were conducted in immersion classroom contexts, Ellis's study aimed at investigating a different context to the immersion context and was undertaken in an ESL classroom context. The second aim that motivated this study was to examine the discourse in which both pre-emptive and reactive focus on form took place. We have seen earlier that Ellis *et al.* provided a broader definition of the concept uptake than Lyster and Ranta's (1997) definition to encompass both reactive and pre-emptive learners' moves. Analysis of 12 hours of audio-recorded classroom interaction revealed that recasts were the most frequent CF type which, unlike Lyster's studies, generated a very high rate of uptake (71.6%), 76% of which was successful (repair) (Ellis *et al.,* 2001).

3.2.3 The effect of context and instructional setting on uptake

The contradictory findings reported in the previous sections can be explained in light of the mediating role of context and instructional setting in CF effectiveness. For example, comparing both Lyster and Ranta's (1997) study and Ellis *et al.*'s (2001) study revealed contrasting results on the role of recasts. The most frequent type of CF (recasts) generated a higher degree of

uptake in Ellis *et al*. (2001) than in Lyster and Ranta (1997). These differences in the findings were attributed in part by Ellis *et al*. to the difference in the composition of immersion and ESL classes, i.e., to the contexts of both studies. Lyster and Ranta's study context was a content-based immersion French classroom with 4th and 5th grade students who mostly take the language course as a mandatory part of their programme. They learn French language and learn other subjects in French as well. In contrast, Ellis *et al*.'s was an intensive ESL programme with adult learners who enroll to improve their language level for several reasons, such as to get a job, or as a requirement to pursue their studies at university, etc. were 'more motivated and more cognitively able to attend to form than Lyster's immersion students' (p. 311). Examples that reflect how instructional setting affects the way CF works for L2 learning can be found in Sheen (2004). Utilizing Lyster and Ranta's taxonomy of CF types and learners' uptake and repair, Sheen (2004) compared teachers' feedback and rates of learners' uptake and repair across four instructional communicative classroom settings (French immersion context, Canadian ESL context, New Zealand ESL context and Korean EFL context). The findings revealed that among all CF types, recasts were the most frequent error treatment strategy across all contexts with a higher frequency in New Zealand ESL (68%) and Korean EFL context (83%) than in French immersion (55%) and ESL contexts (55%). Also the rates of uptake and repair recasts generated were much higher in New Zealand ESL and Korean EFL contexts than in French immersion and ESL contexts. Sheen's (2004) study highlights the importance ofthe instructional setting in which CF occurs in determining its effectiveness in relation to learner uptake and repair.

Lyster and Mori (2006) compared teachers' feedback and students' uptake and repair across two instructional settings; Japanese immersion context and French immersion context. Students were at elementary school level. Analyses of classroom interaction revealed that recasts were the most frequently used CF in both settings alike compared to prompts and explicit correction. However, the distribution of uptake and repair following CF considerably varied between the two contexts with recasts resulting in the highest rate of repair in Japanese context, while prompts generated the highest rate of repair in the French context.

Fu and Nassaji's recent study (2016) examined teacher feedback and learner responses in adult Chinese as a foreign language classroom. Leaners were at an intermediate level of Chinese with an average age of 20. Video and audio recordings of 10 hours of classroom interaction revealed that recasts were the most frequently used CF technique (56.7%) of all feedback

moves. The remaining CF types were of much lower frequency. Unlike the low rate of uptake and repair following recasts in Panova and Lyster study, this study reported a higher rate of uptake and repair. Regarding recasts, 49.6% of all recasts resulted in learner uptake, while 45.3 % of all recasts led to learner repair.

Descriptive studies on the role of oral corrective feedback has also been conducted outside classroom contexts, in naturalistic settings or laboratory settings. Researchers investigated CF that occurs between native speakers (NS) and non-native speakers (NNS) during interaction in naturalistic settings with NSs, and feedback that occurs in dyadic laboratory settings during learners' involvement in communicative tasks. Pica *et al*. (1989) was among the earliest laboratory studies that aimed at investigating the pattern of interaction between ten adult NS and NNS dyads. NNSs were all Japanese learners of English at intermediate levels (low-intermediate and mid-intermediate). While completing different two-way communication tasks, NNS received feedback from their NS partners when the later had difficulties understanding the meaning of NNS's utterances. The feedback NS provided to their NNS partners took two main forms; clarification requests and reformulations to which NNS responded frequently by modifying their output. However, NNS's modification of their output varied according to the type of feedback they received from NS. More specifically, NNS tended to modify their utterances in response to clarification requests more than reformulations.

Oliver's (1995) study took place in dyadic child native speaker (NS) - Non-native speaker (NNS) interaction to examine the patterns of 'negative feedback available to NNS during conversation with their NS partners. 16 children aged between 8-13 years old worked in pairs to perform one-way and two-way tasks. NNS children came from different linguistic backgrounds: Vietnamese, Cantonese and Farsi, and their English language proficiency levels were assessed according to a modified version of the Australian second language proficiency rating (ASLPR) scale. Participants who scored 2.5 or above on the scale were assigned to the high proficiency group, whereas students who scored below 2.5 on the scale were assigned to the low proficiency group. Students with ratings below 2.0 were not included in the study. Oliver identified two patterns of negative feedback that were provided to NNS by their NS peers on 61% of their errors. The first category was negotiation strategies (repetition, clarification requests and confirmation checks). The second category was recasts. The results showed that NNS utilized their partners' negative feedback in their interlanguage system and used it in subsequent production. In other words, they responded to feedback they received on

their non-target like utterances. The findings revealed that although recasts were less frequent than the other CF strategies, yet, they were the most used types in response to NNS utterances which were meaningfully clear and which included one error. In cases where modified output opportunities exist, recasts were successful in leading to learners' repair and uptake; more than one-third of recasts instances generated learners'' uptake and repair. Oliver's study lends support to the claim that implicit negative feedback (recasts) exists and is beneficial for NNS. However, in order to support this claim, Oliver called for further longitudinal research that tests learners L2 knowledge before and after the provision of feedback.

In a later study, Oliver (2000) compared the pattern of interaction between two age groups (children and adults) across two contexts (ESL classrooms and NS-NNS dyadic interaction). The study aimed at examining whether learners' age and the context of interaction are mediating factors of the provision of negative feedback and its utilization by learners. 10 adults and 10 children classes, 16 adults and 16 children dyads were involved in the study. Generally speaking, the results showed that learners both received and used corrective feedback provided on their non-target like utterances. Although adults received more feedback than did children, there was no significant difference between the two age groups in relation to learners' responses to feedback in either context. The study found learners age and interaction contexts to have an impact on the pattern of interaction; learners' age mediated the choice of the feedback type where teachers provided recasts to adults and children in similar proportion, while negative feedback in the form of negotiation was more likely provided to adults than children. Furthermore, the context affected the pattern of interaction where teachers of both adults and children tended to provide feedback more than did NS to their NNS partners.

In brief, descriptive studies conducted in dyadic interaction settings found that CF is provided by NS to their NNS partners in a good proportion and that feedback is used and responded to by NNS. However, there appeared to be factors that mediated its provision and usefulness in dyadic interaction.

So far, we have seen that in form-focused contexts where emphasis is on language as a form, recasts led to a high degree of both uptake and repair (Doughty, 1994; Ohta, 2000; Ellis *et al*., 2001; Sheen, 2004). On the other hand, in the context of immersion classrooms, where the focus was on meaning, less degree of uptake or repair was reported following recasts in comparison to other CF types employed along recasts in those contexts (Chaudron, 1977; Lyster and Ranta, 1997; Lyster, 1998a; Panova and Lsyter, 2002). This is explained in light of

the difference between meaning-oriented and form-oriented contexts in that in the former, teachers are usually interested in the flow and continuation of the topic, and for this reason, they usually continue with their turns without giving students the chance to react to feedback or repair their errors in order not to interrupt the flow of the topic. On the other hand, in form-oriented contexts, the disruption of the conversation does not affect the main 'focus' of the class (language forms), so, students have more chances to react to feedback.

This was reflected in all the Meta analyses of research on oral corrective feedback which showed that the context in which CF occurs plays a very important role in CF effectiveness. Meta analyses reported differential effects of corrective feedback in foreign-language versus second-language contexts (Mackey and Goo, 2007), in laboratory settings versus classroom settings and in content-focused versus form-focused contexts. Greater effects of corrective feedback were reported in foreign language contexts than in second language contexts. Similarly, laboratory studies were reported to have revealed a greater effect of CF compared to classroom studies (Nicholas *et al*., 2001; Lyster and Saito, 2010; Li, 2010; Mackey and Go, 2007). Researchers ascribed these differences to two major variables which are 'intensity' and 'consistency'. The opportunity to intensively provide CF on the same linguistic feature in a consistent manner can only be achieved in a laboratory context where distraction is minimized, and CF can be directed to individual learners (Nicholas *et al*., 2001; Li, 2010). On the other hand, this is not easily controlled for in a complex environment such as classroom where it is difficult for the teacher to consistently and intensively provide CF to learners individually. 'In the laboratory, distraction is minimized and instructional interventions can be better implemented than in a classroom. Classroom feedback studies are mostly described as quasi-experimental because distracter variables cannot be easily or entirely controlled'' (Li, 2010: 316).

Another reason is that the dyadic nature of laboratory context helps learners notice the corrective force of feedback, whereas in a classroom context, it may be difficult for learners to perceive the corrective force of feedback and to consequently, make use of it (Nicholas *et al*., 2001). 'In laboratory settings where learners meet one-on-one with a native speaker (NS), any NS utterance may be perceived as some sort of feedback. Recasts are therefore likely to be noticeable and consequently to have an effect on learning. In contrast, learners may fail to see the corrective force of recasts in a classroom setting and thus not notice which linguistic feature has been corrected" (Sheen, 2011. p.74).

3.2.4 The effect of recast characteristics on uptake

Research has also shown that CF effectiveness varies considerably depending on CF characteristics. Recasts in particular were of interest for research on CF characteristics due to the variety of ways they can be operationalized, as been shown in the previous chapter. Researchers have agreed that recasts' characteristics can either enhance their saliency, and hence their benefits, or impede their noticeability and effectiveness. Questions regarding which type of recasts is more useful for L2 learning have been examined, and studies which operationalized recasts in different ways/modes have yielded different results. For example, Sheen (2006) investigated the relationship between characteristics of recasts and learner's uptake/repair and found out that the rate of learners' responses following the teacher's recasts varied according to recasts characteristics. More specifically, short, declarative and single recasts generated a higher rate of learners' responses than did longer recasts or those which involved multiple changes. Also, Loewen and Philp (2006) examined recasts characteristics when compared to other forms of CF (elicitation, metalinguistic feedback) in relation to learners' immediate uptake in addition to subsequent use of the target form embodied in the recasts; the results showed that certain recasts characteristics were predictive of successful uptake and accuracy as shown in the post-test scores. More specifically, stress, declarative intonation, one change, and multiple feedback moves were predictive of successful uptake. As far as accuracy was concerned as shown by post-test scores, interrogative intonation, shortened length, and one change were the predicting characteristics. This indicates that recasts explicitness/implicitness meditate the way they work for L2 learning.

The relationship between types of recasts and modified output following each type has been studied in Nassaji (2007b). The study compared the accuracy of modified output following three types of recasts: unenhanced recasts, verbally enhanced recasts and intonationally enhanced recasts. Unenhanced recasts were delivered in a confirmative way with no added paralinguistic features like stress or intonation that could render them more salient. On the other hand, intonationally enhanced recasts were delivered with added stress that enhanced their saliency, and verbally enhanced recasts were delivered with added verbal prompts that made recasts more explicit and noticed. Results showed that both types of enhanced recasts (intonationally and verbally) generated higher rates of accurate modified output than did unenhanced recasts. The more explicit recasts are, the higher rate of learner's response they lead to. Recasts appeared to be beneficial in promoting learners' uptake and that correlated positively with the degree of their explicitness.

3.2.5 Learner perception of recasts and uptake

Research on oral corrective feedback has also documented learners' perception/noticing of CF and the relationship between perception and learners' responses to feedback. Mackey, Gass, and McDonough (2000) examined learners' perception of various feedback moves provided on different types of errors. Two groups of participants were involved; ten ESL learners with multi linguistic backgrounds, and seven learners of Italian as a foreign language (IFL), from the same English linguistic background. All participants were at the beginner or lower- intermediate level who carried out a communicative task (two-way information exchange activities, 15-20 minutes each) with a native (English) or near-native (Italian) interviewer. Generally speaking, Researchers found that, to a large extent, recasts, which were provided for morphosyntactic errors for both groups, did not lead to repair on the part of the learner in either group. Using stimulated recalls, learners reported that they were unable to perceive feedback on morphosyntactic errors (recasts) as corrective, and consequently, no repair occurred. Phonological errors, however, were responded to differently for each group; in the case of ESL group, interlocutors generally resorted to negotiation for meaning or clarification requests, simply because, according to the researchers' explanation, learners in that group were from various L1(s). Consequently, phonological errors impeded communication and as such needed more explicit kind of feedback (negotiation, clarification requests) on the part of the interlocutor who could not guess what the learner might have meant since he had no knowledge of all learners' L1(s). Learners, however, were able to perceive feedback on phonological errors (negotiation) as meant to correct their pronunciation. On the other hand, in the case of the second group (IFL), phonological errors did not usually receive feedback, and when feedback had occurred, it was in the form of simple recasts. According to the researchers, that was partly because all learners were from the same L1 and their interlocutors had knowledge of that L1. As such, phonological errors did not impede communication since interlocutors could know what the learner might have meant. This is on line with what Lyster (1998b) emphasized when proposing that in his study, though that was in a classroom setting rather than a dyadic interaction setting, recasts could be provided for phonological errors simply because the teacher had knowledge of the types of errors committed by students and was able to understand the meaning behind their utterances.

Egi (2010) study investigated the relationship between learners' perception of recasts and their responses to recasts in the forms of uptake, modified output and repair. Participants were 24 learners of Japanese as a foreign language with an age range from 18-40 and at a high-

beginning to intermediate level in Japanese. Each participant was involved in task-based interaction with an NS. The dyad tasks included a warm up one-way picture placement task (10 m) and two other communicative tasks (15-20 m each) where they received recasts on their errors.

Analysing learners' reports obtained through stimulated recalls, the results showed that learners reported noticing the corrective force of recasts more often when they did produce uptake than when they did not. Learners also reported noticing recasts and noticing the mismatch between their IL form and the L2 form more often when they repaired their errors than when they did not. Moreover, a very significant relationship has been found between learners' modified output and both the recognition of corrective recasts and noticing the gap, as discussed earlier in this chapter. Noticing the gap has always been associated with L2 development. This is why the significant relationship between noticing, repair and modified output reported in this study can partially explain why learners' responses are strong predictors of L2 development.

Researchers studied what factors might affect learners' perception and noticing of CF. Philp (2003) used immediate recall to examine ESL learners' noticing of recasts provided to them by their NS pairs in dyadic interaction. Results indicated that learners noticed more than half of the recasts they received (over 60-70%). However, this noticing was mediated by the length and number of changes in the recast. Shorter recasts were recalled more accurately than lengthy recasts. Additionally, recasts that were closer to the 'trigger' utterance and which included fewer changes were also recalled and noticed more accurately by learners than recasts which included more changes.

Egi's (2007) study also provides evidence that length and number of changes in recasts mediate their explicitness as corrective feedback, which in turn affects learners' abilities to recognize their corrective force. In her study, learners tended to interpret longer recasts which considerably differed from their original erogenous utterances as confirmation of meaning, whereas, shorter recasts that involved fewer changes and by that resembled learners' original utterances were most likely interpreted by learners as a form of negative evidence. That was true for both morphosyntactic and lexical recasts.

To summarise, by and large, descriptive classroom studies have reported teachers tendency to frequently use recasts in response to their students' errors. The high frequency of recasts reported in these studies was not correlated with a high degree of learner uptake/ repair. Moreover, the degree of repair and uptake differed from one instructional setting to another.

Recasts characteristics (length, stress, mode, number of changes and enhancement) mediate their effects on L2 learning.

3.3 Does CF Lead to Acquisition? Experimental Laboratory Studies on Oral CF

As discussed earlier, observational research looked at the patterns of CF available to L2 learners and their perception of these feedback moves. It also investigated the rate of learners' uptake and/or repair following CF and has taken the rate of uptake certain types of CF generated from learners as an indication of the effectiveness of those particular CF techniques. Yet, observational research has not measured the effects of CF on L2 development. In observational studies, a frequency account of CF patterns available to L2 learners and learners' immediate responses to them could not show how CF affected learning or what factors and variables might have influenced CF efficacy in L2 learning. The absence of any measure that could trace L2 development in relation to CF has given a rise to a considerable body of experimental research.

The experimental research discussed here focuses on both the developmental effects of CF on learners' IL development, as opposed to the immediate effects of CF (i.e., uptake, repair, etc.), and on the factors that mediate CF effectiveness. The general design followed in these experimental studies was a pre-test where learners' knowledge of the target structure is measured, a treatment or intervention whose effects on the target structure (s) are to be measured. Then, an immediate and often a delayed post-test to compare learners' scores with those of the pre-test, and see if there is any improvement as a result of the treatment.

3.3.1 Intensive recasts and learners' readiness

Mackey and Philip (1998) examined the effects of conversational interaction with intensive recasts on the acquisition of English question formation by 35 adult ESL learners during task-based dyadic interaction with 5 English NS. Learners were at two proficiency levels: 'ready' and 'unready' to acquire the target structure based on Pienemann and Johnston's (1987) 'developmental sequence'. The results showed that interaction with intensive recasts proved to have positive effects on learners' production of 'targeted higher-level morphosyntactic forms' in English, especially for more advanced learners 'the ready group' than interaction without recasts. However, the less advanced learners 'the unready group' performed similarly when exposed to recasts and when not. The findings were explained in light of Pienemann's (1984, 1989) Learnability of the structure. According to Pienemann, the learnability of a certain structure depends on the learner's readiness to acquire that particular structure. In other words, learners need to be at the right developmental level for them to possess the processing

constraints required to acquire the structure. Therefore, learners in the 'ready' group were able to perceive the corrective nature of the recast only when they had reached a stage of 'developmental readiness'; if learners are not at the developmental level required to acquire a certain structure, they will not acquire it; it is 'unlearnable, unteachable, and untreatable'.

In a similar vein, Han (2002) carried out a small-scale empirical study to examine the effects of recasts on tense consistency by eight adult L2 learners of English. Participants were divided into two groups: a recast group and a non-recast group. Recasts helped learners be more aware of tense consistency in the L2 they were learning. However, one of the conditions Han discussed for recasts to be effective was that learners were 'developmentally ready' to benefit from recasts. What might have helped recasts to be more effective was that learners already had knowledge of the target structure and that recasts function was to 'heighten' learners' awareness of that structure rather than teaching them a new form.

Nicholas *et al*. (2001) reviewed a number of studies on recasts and noted that 'recasts can be effective if the learner has already begun to use a particular linguistic feature and is in a position to choose between linguistic alternatives'. (p.752). However, researchers have not agreed on determining what 'readiness' implies. For instance, Mitchell and Myles (1998:142, cited in Ishida 2004: 334) argued "we still know very little about what might constitute 'readiness' to acquire any given item, either in terms of the necessary prerequisite state of the learner's interlanguage, or in terms of the degree of automaticity of processing, which might 'free up' the attentional space which is needed for 'noticing' something new"

Also focusing on intensive recasts, employing a time-series design, Ishida (2004) investigated the effects of intensive recasts on the acquisition of different uses of the Japanese aspectual form *te i-(ru)*, mainly the progressive use and the resultative use by four classroom learners of Japanese as a foreign language. Participants were involved in eight conversational sessions where they received recasts from the researcher in the middle four sessions. The study found that intensive recasts positively affected learners' short-term and long-term accuracy in the use of the target form, especially for its resultative use rather than the progressive use. Moreover, a significant correlation between learners' improvement and the number of recasts was found; an increased number of recasts led to an increased accuracy. Ishida acknowledged the difficulty of generalizing the findings of her study and attributed the reason to the small number of participants and suggested, instead, 'replicating' her study with a larger number of participants. However and regarding this methodological limitation, the study constitutes evidence of the

positive effects of recasts in meaning-oriented communicative activities when they are provided intensively on target forms the learners already have knowledge of.

These two studies provide evidence on the usefulness of recasts when provided intensively on a preselected target structure and that this effectiveness is mediated by learners' readiness for that target structure.

Not only is the effectiveness of recasts dependent on learners' level of L2 proficiency, teachers and learners preferences of one CF over the other are also pertinent to this variable. For instance, Lyster and Ranta (1997) explained that in their study, the teacher of students with a higher level of L2 proficiency tended to used recasts less than other teachers of less advanced students. In contrast, the teacher of more advanced learners employed a more output-pushing CF techniques because of her students' advanced level and "rely less on the on the modelling techniques (i.e., recasts with infrequent uptake) used by the other teachers with less advanced students.'' (Lyster and Ranta, 1997, p. 56,57). Moreover, from the point of view of learners, their proficiency level in the target language influences their CF preferences. In Jernigan and Mihai (2008), learners of low proficiency preferred CF that focuses on fluency rather than accuracy (quantity over quality of language). On the other hand, the more advanced learners reported favouring CF that focuses on accuracy rather than fluency.

3.3.2 Positive vs. negative evidence and the type of the linguistic feature

Long *et al*. (1998) compared the effects of recasts operationalized as "implicit negative feedback'' and modelling provided as ''pre-emptive positive input'' on learning Japanese and Spanish. For the Japanese study, 24 learners with a mean age of 20.08 years old were assigned to two conditions: treatment and control following a pre-test-treatment-post-test design. The Japanese structures targeted in the study were adjective ordering and fronted locative constructions. The treatment for each target structure involved a communicative game played in a model or recast version, by the researcher and one participant. Testing involved oral production measures (picture-description task) with one form for the pre-test and a second form for the post-test. For the Spanish study, 30 young adult undergraduates volunteered and formed a treatment condition and a control condition. The design of the Spanish study was exactly the same of the Japanese study. The Spanish target structures were object topicalization and adverb placement. The treatment consisted of two communicative tasks where models and recasts were delivered on both structures. The tasks involved the participant and teacher communicating about characters, habitual actions and objects presented in the form of cardboard cutouts. For

both the pre-test and the post-test, participants performed two forms, A and B, consisting of an oral picture-description (production) task and a grammaticality judgment (recognition) task.

The study yielded mixed results. For the Spanish study, as far as adverb placement was concerned, the recasts group significantly outperformed the models group and both groups had short term benefits over the control group, while there was no significant difference between the recast group and the models group on learning object topicalization. However, for the Japanese study, results showed no significant difference between the recast group and the model group on learning any of the Japanese structures. This study reported positive effects of recasts when compared to models but not on all types of structures. Although the study provides evidence that not all types of structures are equally amenable to correction, this needs to be taken with caution as the study did not include a delayed post-test to investigate whether the short term benefits of feedback reported in the Spanish study were sustained over time, the thing that the researchers were aware of. Consequently, they recommended the inclusion of delayed post-tests in future studies (Long *et al.*, 1998).

Iwashita's (2003) study compared the effects of both negative feedback (operationalized as recasts) and positive evidence on the acquisition of two Japanese grammatical structures (the Japanese locative-initial construction and a verb morpheme (*te- form verb*). Participants were 55 learners of Japanese as a foreign language at a beginning level of proficiency with a mean age of 20.8 years and their Japanese NSs conversation partners with a mean age of 24.6 years. Participants, divided into a treatment group and a control group, were involved in communicative language teaching task-based interaction (two one-way information gap tasks 'picture-description tasks' and a single two-way jigsaw task 'spot-the-difference' task), where they received implicit negative feedback and positive evidence about the grammatical structures under question by their interlocutors. Implicit negative feedback was provided in the form of recasts and negotiation moves (e.g. clarification requests, confirmation checks, and repetitions), while positive evidence was provided as a model which is "a NS's interactional move that follows a NNS's target-like or incomplete utterance and provides a target model of the grammatical structures under study" (p. 15).

Learners' performance on the two grammatical structures was examined through an oral production measure. A picture-description test was administered with three different pictures for each testing session (pre-test, immediate post-test and delayed post-test). The study yielded two important findings. First, in spite of the higher rate of positive evidence provided by NS(s),

positive evidence was beneficial for only those who performed well in the pre-test. On the other hand, negative evidence (recasts) were found to be beneficial for all learners irrespective of their developmental stage regarding the target structures. The second finding is that although recasts were more beneficial than positive evidence, their effectiveness was mediated by the type of the structure in question; recasts were found effective for only one target, the *te*-form verb. Also, in Ishida (2004), intensive recasts improved learners' accuracy in the use of the Japanese aspectual form *te i-(ru)* for its resultative use more than its progressive use. This again showed that recasts' effectiveness varies according to the linguistic structure under question.

3.3.3 Recasts vs. prompts

Lyster and Izquierdo's 2009 study sought to compare the differential effects of recasts and prompts on learning French grammatical gender by 25 learners of French as an L2 at an intermediate-level. Participants' ages ranged from 18 to 24, with a mean age of 21, excluding only one participant who was 49 years old. All participants were exposed to a three-hour focus on form instructional treatment distributed over a two-week period in class. The instructional treatment was designed to draw learners' attention to target noun endings that predict grammatical gender. They were then assigned to either recast or prompt group and met in dyads with a native or near-native speaker of French on two 30-minutes feedback sessions outside the class where they carried out three oral tasks: object-identification task, picture-description task and riddles). During these tasks, native/near native interlocutors provided feedback on learners' grammatical gender errors in the form of either prompts or recasts depending on each experimental condition. Recasts were provided without output opportunities, whereas prompts were operationalized as clarification requests followed by a repetition of the error if clarification request alone did not elicit a correct response. On each test (pre-test, immediate post-test and delayed post-test), participants completed two oral production tasks and a binary-choice and reaction-time test. Results revealed significant positive effects of both CF types (recasts and prompts) where both groups significantly improved their scores from one testing session to the other. The study showed significant pre-to-post improvements in all measures, but no significant difference between prompt and recast groups in any measure. Lyster and Izquierdo conclude that the nonsignificant difference between recasts and prompts is due to two main attributes which are intensity and consistency. These two feedback forms were provided consistently and intensively on the same target form, which made them equally more explicit and useful for learners. Also learners' orientation to form and the fact that they had been exposed to form-focused instruction in class made them 'primed' to notice the feedback

and made use of it regardless its type. The study however did not include a comparison group which received same instructional treatment but no feedback treatment to tease apart the effect of instruction from the effect of feedback. This could have impacted the results of this study (Lyster and Izquierdo, 2009).

To summarize, laboratory-based studies which experimentally investigated the usefulness of recasts or compared recasts to other CF strategies have generally reported positive effects of recasts. However, this effectiveness depended on a number of variables like learners' readiness to acquire the target structure (Mackey and Philp, 1998; and also the nature of the target structure under investigation (Iwashita, 2003; Ishida, 2004; Long *et al*., 1998). It is worth mentioning that in most lab-based studies, recasts were provided intensively on one specific target structure and this might be a reason behind the effectiveness of recasts reported in these studies (Mackey and Philp, 1998; Ishida, 2004; Lyster and Izquiredo, 2009). Intensity is a very important factor that can only be achieved in laboratory-based studies as opposed to classroom-based research.

3.4 Does CF Lead to Acquisition? Quasi-experimental Classroom Studies on Oral CF

Quasi-experimental classroom studies used intact classes where there was no opportunity for random group assignment to investigate the developmental effects of CF in L2 acquisition. CF literature is replete with these studies which focused on the long term effects of CF and the variables that influence its effectiveness.

3.4.1 Recasts

CF quasi-experimental studies examined the provision and effectiveness of one CF type at a time for a deeper understanding on how and under what conditions this particular corrective feedback affects L2 learning. Among the earliest of these studies is Doughty and Varela's (1998) quasi-experimental study. Carried out in a content-oriented communicative language classroom, this study examined the effects of 'corrective recasting' on the acquisition of English past time reference (simple past tense and conditional past tense). Participants were 34 learners aged between 11-14 years old at an intermediate ESL level in two intact science classes which served as one treatment group and one control group. Both groups completed six science report tasks. The results of the first report served as a pre-test, the results of the fifth report served as a post-test, and the results of the sixth reports served as a delayed post-test. Between the pre-test and the immediate post-test, both groups were involved in pedagogical labs where the treatment group received focus-on-form instruction through corrective recasting, and science content instruction, while the control group received only the science content

instruction. Corrective recasting was operationalized as repetition of the learner's erroneous utterance with rising intonation to make him/her aware that an error had occurred, and then provision of recast which included the alternative correct target form as shown in example below (p. 124). Doughty and Varela reported that the group which received corrective recasting on past tense errors significantly improved their accurate use of the past tense and their frequency of the use of past time reference in both oral and written measures in the immediate post-test, and only in the oral measure in the delayed post-test (gains evident in the immediate post-test did not endure to the delayed post-test), in contrast to the control group.

(3.3)

Jose': I think that the worm will go under the soil.

Teacher: *I think* that the worm will go under the soil. (With rising intonation indicating an error)

Jose': (no response)

Teacher: I *thought* that the worm *would* go under the soil.

Jose': I *thought* that the worm *would* go under the soil.

Doughty and Varela argued that repeating the learner's error with emphasis on the error through rising intonation could have made corrective recasts more explicit to learners than simple conversational recasts alone and hence, more effective. This was later emphasized by Doughty (1999) when suggesting that it is not enough for the learner to know that he/she has committed an error; the learner needs some extra indicators helping him/her identify the spot of the error.

Although Doughty and Varela's study provides empirical evidence of the feasibility and usefulness of incorporating a focus-on-form CF (recasts) into a content-oriented classroom setting, Lyster (1998b) and Lyster and Izquierdo (2009) argued that their findings of the efficacy of recasts should be interpreted with caution since their operationalization of 'corrective recasting' was considered as being a double feedback move. Researchers argued that a combination of recast and repetition where recasts were only used after repetition of errors failed to elicit self-repair from learners could be the reason responsible for the positive impact reported for recasts in this study.

Muranoi (2000) also examined the effects of interaction enhancement (IE) through the provision of feedback on the acquisition of English articles by 91 first year Japanese college students learning English as a foreign language. Students had previously received instructions on English articles at high school, yet their performance on English articles was poor as shown by the pre-test results. The study compared two different types of IE which were IE+ formal debriefing (IEF), and IE+ meaning-focused debriefing (IEM) and a non-enhanced interaction control group. IEF implied instruction that provided both implicit negative feedback during a problem-solving task and later explicit grammar explanations. IEM, on the other hand, implied instruction that provided implicit negative feedback during a problem-solving task without any explicit explanation of grammar. The treatment consisted of three training sessions, 30 minutes each, and IE attempted to incorporate form-focused instruction into communicative language teaching.

(3.4)

(Student looks at a drawing depicting a big rat running around in a room)

Teacher: And any other problem?	<output enhancement>
Student : . . . I saw rat.	<incorrect output>
Teacher: You saw what?	<request for repetition (input/output enhancement)>
Student: A rat.	<successful modification>
Teacher: Uh-huh, you saw a rat in your room.	<repetition (input enhancement)>
That's terrible.	<topic continuation>

With a pre-test, immediate post-test and delayed post-test, students were tested on the use of English article. Four elicitation tasks were used: oral story description, oral picture description, written picture description and grammaticality judgement task. The study reported a positive effect of IE on the learning of English articles. The positive effect was higher for IEF than IEM: interaction enhanced through feedback was effective when that feedback was targeted to a specific form.

3.4.2. Recasts vs. prompts and the mediating factors

Quasi-experimental studies also compared the effects of more than one CF type at a time. Lyster (2004) investigated the effects of prompts and recasts, in form-focused instruction on

grammatical gender by 179 learners of French in content-based immersion classrooms in Canada. Participants who were 10-to-11-year old, with their teachers, were assigned to four conditions; one received form-focused instruction (FFI) without any type of feedback on grammatical gender errors, one received FFI with recasts, one received FFI with prompts, while the last group did not receive any particular FFI, and served as a control group. The treatment was spread over a five –week period totaling 9 hours, and it focused on providing learners with opportunities of using grammatical gender. To assess the students' ability to assign grammatical gender, two written tasks (binary-choice test and text-completion test) and two oral tasks (object-identification test and picture-description test were administered three times using a pre-test, post-test1 and post-test2 design. Analyses of the three tests results showed that students in the FFI conditions significantly improved in comparison to the other groups in their ability to assign grammatical gender. Moreover, results in general, and more specifically the written production measure results revealed that FFI with prompts was more effective than FFI with recasts or FFI with no feedback, whereas there was no significant difference between FFI with recasts and FFI with no feedback.

The superiority of prompts over recasts was also reported in Ammar and Spada's (2006) study. The study investigated the differential effects of prompts versus recasts on the acquisition of English third person singular possessive determiners (*his* and *her*) and whether learners' proficiency level in the target structure mediates CF effectiveness. Sixty-four Francophone learners of English in three ESL intensive classrooms took part in the study and were assigned with their three teachers to two experimental groups: prompts and recasts and one control group. Each of these groups was further divided into two sub-groups (low proficiency vs. high proficiency) based on learners' performance in the pre-test. The treatment consisted of one instructional session and 11 practice sessions spread over a period of 4 weeks (30-45 minutes for each session). Participants carried out a number of communicative activities which were only specified by researchers as creating contexts for the use of third person singular PD(s). During these activities, participants received either prompts, or recasts or no feedback depending on each condition. Pre-test results compared to post-test and delayed post-test results indicated that all groups benefitted from the instructional intervention they received about learning and practicing the rule of PD(s), with recasts and prompts groups outperforming the control group. Results also showed that prompts were more effective than recasts especially in the immediate and delayed written post-tests and the delayed oral post-test, and that the effectiveness of both types of feedback depended on learners' proficiency level; prompts and

recasts proved to be equally effective for high proficiency learners, while low proficiency learners benefited significantly more from prompts than recasts.

Researchers interpreted their findings by suggesting that low proficiency learners needed a more explicit type of feedback (prompts) which signals to them the locus of errors in their production and by that help them notice the difference between their interlanguage form and the target language form. In contrast, because of their advanced knowledge of the target structure, high proficiency learners might not need to be explicitly drawn to notice the correct form and might have been more able to notice the corrective force of recasts than did low-proficiency learners. This might be why the nature of the CF used did not make any difference for those advance learners.

Although the studies were conducted in same type of content-based communicative classrooms, the findings of Lyster (2004) and Ammar and Spada (2006), that reported superiority of prompts over recasts, contradict Doughty and Varela's (1998) which reported positive effects of recast on the accurate use of the simple past and the past conditional on both oral and written measures. Goo and Mackey (2013) suggested that the discrepancy in the findings of these studies could be due to a number of methodological reasons. First, as reported earlier, recasts in Doughty and Varela's study were made more explicit and more noticeable by means of repeating the learner's error before recasting it, while recasts in Lyster's study and Ammar and Spada's study were not accompanied by any additional cues that might have helped learners notice the corrective force of recasts. On the other hand, prompts were operationalized in a very explicit way by means of elicitation strategies, clarification requests and metalinguistic cues. Second, prompts in Lyster (2004) and Ammar and Spada (2006) consisted of various corrective feedback types as compared to only one CF type (recast). This gave the prompt group an advantage of being exposed to more frequent feedback than in recast group. Thirdly, although prompts in both Lyster's and Ammar and Spada's studies were reported to have beneficial effects over recasts, it was not clear which component of prompts was responsible for these effects. In other words, each type of elicitation used in these studies in the prompt group constitutes by itself a separate CF type to be compared with the recast group. Finally, in both Lyster's and Ammar and Spada's studies, it was not clear whether the effects were due to the provision of CF, the form-focused instruction or a combination of the two (Goo and Mackey, 2013).

Yang and Lyster's (2010) study also compared the differential effects of prompts versus recasts on the acquisition of English regular versus irregular past tense forms by 72 Chinese EFL learners whose aged ranged from 18 to 24, with an average age of 20. Participants in three intact classes were assigned to three conditions: a prompt group, a recast group and a control group. Participants carried out four form-focused production activities designed to elicit the use of the past tense: two dictogloss tasks, one question-and-answer activity and one picture-cued narrative task, totaling approximately two hours over a period of two weeks. While completing these tasks, participants received either prompts or recasts or no feedback, depending on each condition, on their past tense errors. Prompts were provided in different forms constituting four feedback types: metalinguistic clues, repetition, clarification requests and elicitation. The study employed a pre-test, immediate post-test and delayed post-test design to measure students' performance on the use of past tense using two measures for each testing session: an oral production measure and a written production measure. Oral and written production measure results revealed differential effects of both CF types on regular versus irregular past. Learners' accuracy in the use of regular past tense increased as a result of prompts more than recasts, whereas accuracy in the use of irregular past tense forms benefited equally from both prompts and recasts. Researchers ascribed the superiority of prompts over recasts in the use of regular past tense to the ability of prompts to create self-repair opportunities and to their saliency in oral production measure. Yang and Lyster's study provided evidence that type of target structure might be a mediating factor in determining recasts' effectiveness.

This has also been reflected nearly a decade later in Li and Iwashita's (2019) quasi-experimental study which examined the effects of both recasts and prompts on the acquisition of two structures: questions and past tense by 90 adults EFL learners in China. The study employed a pre-test, treatment, immediate post-test and delayed post-test design. Data analyses using repeated measures ANOVA revealed that regarding accuracy in the use of English questions, recasts were relatively more effective than prompts. However, with regards to past tense, the study showed that while recasts proved to be more beneficial than prompts for the development of irregular past tense use, learners benefitted more from prompts than recasts in increasing their accuracy in the use of regular past tense. This again lends support to the mediating role the type of the target structure plays in recasts' effectiveness in L2 development. Another study that adds to the same line of research is van de Guchte et al's (2015) study which examined the effects of prompts and recasts on the development of German target features: dative case after a preposition and comparatives. 64 learners of German as a FL at a low-intermediate level took part in the study and formed two experimental groups and a control

group. The study showed that learners in both experimental groups (prompts and recasts) improved their fluency and accuracy in the use of both structurers with the prompts group outperforming the recasts group. Recasts effectiveness, however, differed between the two structures and according to the learning measure: Recasts were more effective for the comparative than for the dative on written accuracy.

The advantages of prompts over recasts have also been reported for phonological structures. Gooch et al (2016) compared the efficacy of prompts and recasts when both types of CF are accompanied with FFI on the pronunciation development of English /ɹ/ by 22 Korean EFL learners. Learners' production of the target structure was measured through both spontaneous and controlled tests before and after the four-hour treatment that the learners received according to each condition. The results of this small scale study revealed that recasts efficacy was more evident in the controlled production of /ɹ/, whereas prompts were facilitative of both spontaneous and controlled production of /ɹ/.

3.4.3 Recasts versus metalinguistic feedback

Ellis *et al.* (2006) criticised the testing methods previous studies used as lacking measures to test learners' implicit knowledge which could be examined through tests that 'call on learners to access their linguistic knowledge rapidly online' (p. 349). Even the few studies which employed measures of implicit knowledge in their designs, did not explicitly compare the effects of implicit vs. explicit CF techniques. Based on these limitations, Ellis *et al*.'s study compared the effects of implicit feedback (operationalized as recasts) versus explicit feedback (operationalized as metalinguistic explanation) on the acquisition of English regular past tense *ed.* 34 learners at a lower intermediate level of English with a mean age of 25 took part in the study. Each experimental group received a total of one hour of instruction spread over two consecutive days during which they performed two 30 minutes communicative tasks (story retelling and picture-cued narration) and received either explicit or implicit feedback based on their experimental condition. The control group on the other hand did not complete the tasks

and did not receive any type of CF on past tense errors. Employing a pre-test, immediate post-test and delayed post-test design, researchers measured learners' explicit knowledge of past tense *-ed* through untimed grammaticality judgment test and metalinguistic knowledge test, whereas learners' implicit knowledge was tested through an oral imitation test. Results revealed superiority of explicit feedback over implicit feedback and no feedback in both grammaticality judgment and oral imitation delayed post-tests, indicating the superiority of explicit feedback on explicit and implicit knowledge. Moreover, results showed a significant advantage of the metalinguistic explanation group over the recast group in generalizing the past tense morpheme *-ed* to new items which were not included in the treatment in that they performed significantly better in both oral imitation and GJ post-tests.

Ellis's (2007) study compared the effects of metalinguistic feedback vs. recasts on the acquisition of English regular past tense *-ed* and English comparative particle *-er*. The two structures are considered to posit different degrees of difficulty for L2 learners, the regular past tense being the easier amongst the two. The results revealed that the metalinguistic feedback group improved significantly more in the use of the comparative *-er* than in the use of the past *-ed*, whereas recasts had similar effects on both structures and the recasts group did not outperform the control group on any of the measures. The results might be due to the more explicit nature of metalinguistic feedback compared to recasts and also to the fact that learners' knowledge of comparatives were low compared to their knowledge of simple past *-ed*, which created room for improvement in the use of comparatives as a result of feedback. Ellis (2007) concluded that 'what is needed is further research to help us identify how linguistic factors determine when different kinds of feedback will work for acquisition.' (P. 360).

Sheen (2007) compared the effects of recasts and metalinguistic feedback on the acquisition of English articles by 80 intermediate level ESL learners (aged 20-51) in six intact classes. In this study, recasts were operationalized as 'a teacher's reformulation of a student's erroneous utterance, without changing the meaning of the student's original utterance, in the context of a communicative activity' (p. 307). Recasts were either full or partial.

(3.5) full recast

Student: There was fox.

Teacher: There was a fox.

(3.6) partial recast

Student: he took snake back.

Teacher: the snake.

metalinguistic feedback was operationalized as a 'teacher's provision of the correct form following an error, together with metalinguistic information' (p.307).

(3.7)

Student: There was a fox. Fox was hungry.

Teacher: The fox. You should use the definite article 'the' because you've already mentioned fox.

As Sheen noted, her operationalization of 'metalinguistic correction' differed from other researchers' definition of metalinguistic feedback where the teacher did not provide the correct target form (Lyster and Ranta 1997; Lyster 2004; R. Ellis *et al*. 2006). Treatment involved two narrative tasks, 30-40 minutes each over a period of two weeks. To measure the effects of feedback treatment, students' use of articles was tested three times using a pre-test,immediate post-test and delayed post-test design. Three tests were administered at each testing session: a speed dictation test, a writing test and an error correction test.

The results showed that the metalinguistic feedback group outperformed both the recast and the control group in both the immediate and delayed post-tests. Sheen acknowledged that the short treatment and the non-salient target feature in the present study (English articles), two conditions existed in Ellis *et al.* (2006) study too, could have been the reason why recasts had no significant effects in her study. However, Sheen, in her comparison between recasts and metalinguistic correction, treated the latter as one CF type when in fact it incorporated two different types (explicit correction + metalinguistic explanation) in contrast to recasts which were provided monothically. This is a methodological flaw in most studies that compared

recasts to other inherently different types of feedback (Lyster, 2004; Ammar and Spada, 2006; Yang and Lyster, 2010)

The studies just reviewed indicate that recasts are less effective than other corrective feedback types and that it was only in classrooms where recasts were investigated on their own virtue that the results showed positive effects of recasts on L2 learning of pre-selected linguistic target structures (Doughty and Varela, 1998; Muranoi, 2000).

3.5 Issues with Experimental/Quasi-experimental Studies on Oral CF

3.5.1 Comparing the dissimilar

Researchers criticised the methodology of experimental research on oral CF especially with regards to comparative studies which compared one CF against another. Researchers argued that each type of CF has inherent characteristics which might render comparison between CF types problematic (Goo and Mackey, 2013). For example, most experimental studies which reported no/ fewer effects of recasts in comparison to other CF types, the comparison was not a straightforward one. Recasts were often compared to other treatment conditions which included more than one CF type under the same experimental condition. More specifically, in studies that reported an overall superiority of prompts over recasts, recasts were often operationalized as a single CF move, whereas prompts were provided in a variety of CF types including elicitation, repetition, clarification requests and metalinguistic cues (Ammar, 2008; Ammar and Spada, 2006; Lyster, 2004; Yang and Lyster 2010). Had the comparison been between recasts and any of the prompt moves separately, one would have accepted the findings to be informative about the differential effects of CF types (Goo and Mackey, 2013). However, taken this methodological issue into account, the findings of these studies should be interpreted with caution as there had been a potential advantage for the prompts group in receiving multiple types of feedback. That was described by researchers as comparing apples with oranges or single-versus multiple comparisons (Goo and Mackey, 2013) ‘’learners receiving multiple types of feedback have more opportunities to benefit from contextually appropriate feedback than those exposed to only one type of feedback during the entire task’’ (p. 150).

Another methodological issue included cases where recasts were compared to another CF condition that consisted of two moves following each other when the first move did not result in successful modified output. For example, in Lyster and Izquierdo (2009), recasts were compared to prompts which were operationalized as a clarification request move followed immediately by a repetition when the learner’s modified output after the clarification request

was still non-target like. This made prompts a double feedback move and more salient compared to a single CF move (recasts). However, surprisingly, although prompts in this study were a double feedback move, the results as we saw earlier did not show any significant difference between the recasts and the prompts groups.

Furthermore, in some experimental studies that compared recasts to metalinguistic feedback, recasts were provided as one single CF move which was not followed or preceded by any other CF move, whereas, more than one type of feedback – i.e. two-step was provided on the same error in one single turn under the metalinguistic feedback condition. In Ellis *et al*. (2006), metalinguistic feedback was operationalized as a repetition of the error followed immediately in the same turn by metalinguistic information, whereas recasts were provided as a single CF turn. Another example of this can be found in Sheen (2007), where metalinguistic feedback were provided as provision of the correct form (recasts) followed by metalinguistic information in the same single feedback turn, while recasts were provided monolithically. The superiority of metalinguistic feedback over recasts could be attributed to the advantage of being exposed to two CF types under the metalinguistic feedback group in contrast to the recasts group (Goo and Mackey, 2013).

3.5.2 Modified output opportunities

Goo and Mackey (2013) noted that opportunities for modified output were not controlled for in most experimental studies which compared one CF type against another (Ammar and Spada, 2006; Lyster, 2004; Yang and Lyster, 2010, Ellis *et al.*, 2006; Sheen, 2007; Lyster and Izquierdo, 2009). This means opportunity for modified output is an integral part of some CF types (elicitation, clarification requests, repetition and metalinguistic feedback), but not others (recasts for instance). Taking into consideration the beneficial role for modified output in L2 learning (Swain, 1995; 2005), one would conclude an overall advantage of the group receiving CF with modified output opportunities over the comparative group which does not get similar chances for modified output. Goo and Mackey (2013) referred to Oliver's (1995) study which supported this claim by showing that the rates of uptake following recasts increased when no modified output chances were excluded from the data. Moreover, in Lyster and Ranta (1997), teachers in most cases continued with their turns following recasts preventing uptake opportunities, unlike the case with other compared CF techniques which by nature require a response form the learners. This is what Lyster and Ranta were aware of in their study.

According to this, drawing firm conclusions on the superiority of one type of CF over another without controlling for modified output opportunities would be questionable. Saying this does not mean that it would be an easy task to ensure opportunity for modified output or prohibit it when it is an integral part of some CF types (Goo and Mackey, 2013). Also researchers argued that attempts to control for modified output opportunities especially in classroom setting might turn the treatment artificial and threaten the ecological validity of the study. However, if this is the case, then the question remains on why compare feedback types which are inherently different and sacrifice the internal validity of the study? (Goo and Mackey, 2013). This is why Researchers recommended that research now should take a different direction shifting from comparing different types of CF to investigating each type by its own virtue. This would include questions like how, when and under which conditions it is effective and what factors might mediate its effectiveness. Based on this recommendation, the present study was set to investigate rather than compare one CF type (recasts).

3.5.3 Feedback opportunities

One of the issues that arises when arguing for effectiveness of CF is whether each individual has received CF individually or not. Where researchers claimed to have found a positive effect of CF in a classroom environment for instance, it is rarely clear whether teachers have provided CF equally for all learners. This makes it difficult to ascribe any improvement the learner has made to the provision of CF on the teacher's part. This issue has been addressed in two way. First, through the dyad studies reviewed above (e.g. Lyster and Izquierdo, 2009). Second, through computer-assisted learning (CALL).

3.6 Learners' Individual Differences (ID)

Learners' individual difference factors are believed to affect how learners process and benefit from feedback. These factors include affective variables like attitude, motivation, anxiety, etc. and cognitive variables like working memory, language aptitude, intelligence, etc. in addition to learning styles and learning strategies. The role of individual differences (ID) in relation to CF in L2 learning has not been given much attention until recently. Little research has been done to investigate how these factors might mediate CF effectiveness. Where such individual difference factors have been studied, however, they have been shown to affect the role CF plays in L2 acquisition. For example, DeKeyser (1993) reported that learners who were less extrinsically motivated and less anxious were able to benefit from teaching which incorporated CF, whereas learners who were more extrinsically motivated benefited more when teaching did not include a CF component. Havranek and Cesnik (2001) found that learners with a high

degree of intelligence and intrinsic motivation were able to make more use of the CF they received than those who were less intelligent with extrinsic motivation. Also Mackey *et al.*'s (2010) study reported that learners with higher level of WM capacities modified their output following recasts more than learners with lower level of WM capacities. Sheen (2008) also found that low anxiety learners produced higher level of modified output on response to recasts than did high-anxiety learners. Learners' individual differences as seen can influence the way CF works for L2 learning. This is in fact a very interesting area for further investigation. The present study investigated the effectiveness of recasts in relation to learners' motivation, attitude and anxiety level. For this reason, a full chapter is dedicated to learners' individual differences in relation to CF effectiveness, and it will focus on three main constructs: motivation, attitudes and anxiety in second language learning. It will also present a review of a number of studies which examined their roles in L2 learning and in relation to CF effectiveness.

3.7 Summary and Conclusion

To summarize, this chapter reviewed research on oral corrective feedback in second language learning. The review included both descriptive and experimental studies that took place in both classroom and laboratory settings. While there is a general consensus on the usefulness of feedback in L2 learning, findings of studies reviewed so far revealed variations with regards to the effects and the choice of different types of corrective feedback. Researchers suggested that these variations in the CF literature could be due to a number of factors that were believed to have affected the way CF worked for L2 learning. Hence, a considerable body of research has been dedicated to exploring these factors and their influence on the effectiveness of feedback. Factors that were believed to highly mediate CF effectiveness can be categorized under two broad categories: external factors which include, but not limited to, type of the target structure, CF characteristics, research setting, and learners' internal factors such as motivation anxiety, age, proficiency level, etc. Space precludes addressing each and every one of these factors on its own. However, the factors discussed earlier lend support to the claim that there is not one single answer as to which is the most effective type of feedback in L2 learning and there should not be a call to use one single type of feedback in response to learners' errors. Each type of feedback works in a different way and aids language learning in a unique manner. What research can seek best is a better understanding of each type of feedback on its own to make the most of it when employing it in L2 learning contexts. Evidence on the acquisition values of recasts has been gathered mostly from laboratory studies (Long *et al.*, 1998; Mackey and

Philp, 1998; Han, 2002; Iwashita, 2003; Ishida, 2004). Nevertheless, there are still under-explored areas in the study of recasts, especially in relation to learners' individual difference factors and the methodology used in exploring these factors.

Chapter 4. Individual Differences in Second Language Learning

4.1 Introduction

This chapter presents an overview of individual differences (ID) in L2 learning. It underlines the findings of research conducted in this area, points out its limitations, and suggests areas for future research. While the various ID factors affecting language learning are addressed in this chapter, the focus is primarily placed on three factors: motivation, attitude, and anxiety in relation to the effectiveness of Corrective Feedback in L2 learning.

4.2 Definition

The importance of the study of individual differences in second language learning was triggered by the need to understand why L2 learners differ in their level of L2 ultimate attainment. In L1 acquisition, although children might differ in the rate of acquisition, unless they are severely impaired, they end up with a full mastery of their L1. L2 learners, however, differ in both the rate and ultimate attainment, with only a few who start after the critical period attaining native-like L2 proficiency (Ellis, 2004). While researchers have proposed a number of contextual and external factors to account for the differences in learners' L2 achievement, a great deal of this variation can be attributed to learners' internal individual differences (Ellis, 2004; Dörnyei, 2005). As such, individual difference constructs refer to ''dimensions of enduring personal characteristics that are assumed to apply to everybody and on which people differ by degree. Or, in other words, they concern stable and systematic deviations from a normative blueprint'' Dörnyei (2005:4).

These differences include affective, cognitive and social factors. Gardner and MacIntyre (1993:1) define affective factors as "those emotionally relevant characteristics of the individual that influence how she/he will respond to any situation". Moreover, since the focus has shifted from the teacher to the learner as the most important part in the learning process, the study of individual difference factors has attracted more attention in the field of L2 learning (Locas *et al.*, 2011). Researchers have agreed on the crucial role these factors have in the learning process, however, they have not reached a consensus on how these factors work and interact and to what extent they affect L2 learning. Researchers have classified ID factors under certain categories. For example, Dörnyei (2005) divides these into two main categories: major factors and peripheral factors. Major factors include language learning strategies, learning styles, cognitive styles, motivation, personality and language aptitude. Peripheral factors, on the other hand, include learners' beliefs, self-esteem, anxiety, creativity and willingness to

communicate. Ellis (2004:530) goes beyond Dörnyei and suggests a total of ten factors in four categories which are responsible for ID in L2 learning, as shown in Table 4.1.

Table 4. 1 Ellis' factors responsible for individual differences in L2 learning

Category	Factors
1 Abilities	(a) Intelligence (b) Language aptitude (c) Memory
2 Propensities	(a) Learning style (b) Motivation (c) Anxiety (d) Personality (e) Willingness to communicate
3 Learner cognitions about L2 learning	(a) Learner beliefs
4 Learner actions	(a) Learning strategies

Interest in affective factors, the focus of the present thesis, has increased as a reaction to the over-emphasis of the cognitive sphere of the individual in the learning process and the neglect of the role of the affective sphere (Goleman, 1995). Affective factors could, for example, account for the differences in ultimate attainment in child and adult language learning. In other words, since cognitive factors seem not to explain the superiority of child language acquisition over adult L2 acquisition, researchers have ascribed this superiority to affective factors such as attitude, motivation and anxiety (Taylor, 1974). It is worth mentioning that affect should not be viewed as the opposite of cognitive aspects of language learning, but rather both should be considered as complementary sets of facts which require equal attention in the learning process (Pawlak, 2012). In what follows, I will introduce three of the affective factors that are said to mediate L2 learning.

4.3 Anxiety and Its Types

The concept of anxiety has its roots in the field of social psychology. It was defined by Spielberger (1972: 482) as "an unpleasant emotional state or condition which is characterized by subjective feelings of tension, apprehension, nervousness, and worry". Second language researchers and educators borrowed the term 'anxiety' to be used in language learning contexts. Anxiety is associated with serious physical and psychological complications in daily life including long term ones and has, not surprisingly, been proposed to affect second language learning. Second language acquisition researchers refer to three types of anxiety that can be

distinguished: trait anxiety, state anxiety and situation-specific anxiety. ‘’Trait anxiety refers to a stable predisposition to become anxious in a cross-section of situations; state anxiety is the transient, moment-to-moment experience of anxiety as an emotional reaction to the current situation” (Dörnyei, 2005: 198). Situation-specific anxiety ‘’can be considered to be the probability of becoming anxious in a particular type of situation, such as during tests (labelled as ‘’test anxiety’’), when solving mathematics problems (‘’math anxiety’’), or when speaking a second language (‘’language anxiety’’) (MacIntyre and Gardner, 1994b:2).

4.4 Second/ Foreign Language Anxiety

Let us now look more closely at language anxiety. As an affective factor playing a role in the process of second language acquisition, it has provoked debate and been the topic of a considerable body of research, more extensively since 1980s (Horwitz *et al.,* 1986; MacIntyre and Gardner, 1989). This research, though abundant, yielded inconsistent results. L2 researchers have attempted to investigate what the construct of anxiety implies, the basic components and subtypes of this construct, the main reasons or causes behind it, and finally, empirically, examined its relationship with L2 learning.

Early research was characterized by the tendency to focus on general anxiety and examine its effects on L2 performance/achievement (See Scovel, 1978 for a review of early research on anxiety and foreign language learning). Studies did not focus on anxiety types specific to the language learning experience, but rather they investigated anxiety as a general construct. The focus has now shifted to a more specific type of anxiety pertinent to the experience of learning a second language. The early studies were qualitative in nature using learners’ diaries, for instance, to gain information about L2 anxiety. Later research took another direction towards a more quantitative approach through the use of questionnaires and surveys. The increased number of foreign/second language learners all over the world has called for more research in the area to further explore the topic in various learning contexts and under different conditions.

Horwitz *et al.* (1986) were the first to consider foreign language anxiety (FLA) as a specific type of anxiety arising particularly in the classroom context. They viewed FLA as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (ibid: 128). Following Horwitz *et al.*’s (1986) perception, and emphasising the uniqueness of language anxiety in a classroom setting and beyond, MacIntyre and Gardner (1994b:284) defined language anxiety

as “the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening and learning”.

Empirical research was conducted to investigate Horwitz *et al.*’s (1986) model of anxiety specific to the situation of foreign language learning. MacIntyre and Gardner’s (1989) study implemented nine anxiety scales to examine the relationship between different types of anxiety and L2 performance on two measures, oral and written production. The results showed a strong relationship between FLA and L2 performance, whereas the correlation between general anxiety and L2 performance was shown to be weak suggesting that FLA is different from general anxiety.

4.4.1 FLCA components

Foreign Language Classroom Anxiety has been the theoretical basis for most work done on anxiety in L2 learning. Horwitz *et al.* (1986: 127) proposed three basic components of FLCA: communication apprehension, test anxiety and fear of negative evaluation. Communication apprehension is defined as “a type of shyness characterized by fear of or anxiety about communicating with other people” (ibid: 127). Horwitz *et al.* (1986) pointed out that highly-anxious learners are worried about not understanding what the teacher or other students say and not being understood by others, which leads them to refrain from talking or participating in classroom activities or group work. Test-anxiety refers to “a type of performance anxiety stemming from a fear of failure” (ibid: 127). This situation is quite frequent since assessing students’ progress and their level of L2 proficiency throughout the process of learning is a constant requirement and feature of all L2 learning contexts. As such, highly anxious students experience a high degree of fear of failure in these situations regardless of their L2 abilities or how well they are prepared for a particular test or type of assessment (Horwitz *et al.*, 1986). Finally, fear of negative evaluation implies “apprehension about others’ evaluations, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively” (ibid: 128). Fear of negative evaluation is related to test-anxiety in that continuous evaluation is part of any FL classroom. In this case, the highly-anxious students are believed to experience a fear of being negatively evaluated by the teacher and/or by their peers even in cases where there is no real evaluative situation. (Horwitz *et al*., 1986).

These components are reflected in the items of the Foreign Language Classroom Anxiety Scale (FLCAS) proposed by Horwitz *et al.* (1986) as a specific tool to measure the construct of anxiety. This scale was developed based on empirical data collected by researchers where the

responses of students who completed this scale revealed different degrees of anxiety related to each of the three components. For example, "*I would not be nervous speaking the foreign language with native speakers"* indicates communication apprehension; "*I am afraid that the other students will laugh at me when I speak the foreign language* "manifests fear of negative evaluation; "*I am usually at ease during tests in my language class*" reflects test anxiety. Although it might look as if the researchers' proposed theory separates these components of anxiety, research based on the theory has looked at FL anxiety as a mix of these components.

4.4.2 Criticism of FLCA theory

Regardless of the popularity and the frequent use of FLCA theory in L2 learning literature, this model is not without shortcomings. Researchers have argued that the theory places the focus on anxiety as the reason behind poor L2 performance and overlooks the fact that anxiety itself can be a result of other different factors (Sparks and Ganschow, 1995; Argaman and Abu-Rabia, 2002). It was suggested instead that the relationship between anxiety and L2 learning is rather cyclical in that language anxiety is seen as both a cause and an effect. This was best described by Sparks and Ganschow (1995) as 'a chicken and egg phenomenon' and later acknowledged by Horwitz (2001). Some researchers even took a stronger position and disregarded the role of anxiety in leading to individual differences in L2 performance.

Another criticism was directed to the high importance and over-emphasis placed on anxiety as a main reason behind poor performance in the foreign language context. Suggesting alternative reasons, Sparks *et al.* (2000) and Sparks and Ganschow (1991, 1996) proposed the Linguistic Coding Deficit Hypothesis (LCDH, hereafter), according to which language aptitude is the only principal individual factor which accounts for individual variation in L2 performance and achievement. This hypothesis postulates that L1 learning deficits account for L2 poor performance, which in turn leads to anxiety arousal. As such, it overlooked the role of affective factors and considered them the 'outcomes' of individual differences and poor language learning rather than the main reasons behind them. To put it in different terms, learning a foreign language hinges upon learners' first language learning abilities. If learners experience foreign language learning anxiety, this, then, is likely "to be a consequence of their FL learning difficulties, and students' language learning ability is a confounding variable when studying the impact of affective differences (e.g., anxiety, motivation, attitude) on FL learning" (Sparks *et al*., 2000: 251).

In her response to the LCDH, Horwitz (2000, 2001) acknowledged that first language deficits might account for some cases of anxious learners, yet it is not an adequate account for all cases. She based her claims on a number of facts. Firstly, Horwitz notes that the number of students who reported FLA was far too large to be explained by the LCDH. It would be a strong statement to claim that all learners have first language deficits which might have aroused their anxiety, though it is not unlikely that this can be the case for some learners. Secondly, students who participated in the anxiety studies were all from prestigious universities which have their own rigorous criteria for admitting students and it would be unlikely that the majority of students chosen by these universities would have cognitive disabilities. Thirdly, many successful language learners, including successful language teachers, experience language anxiety, and hence, as Horwitz (2000) asked, how can a person with linguistic deficits choose to become a language teacher? Finally, she argues that Sparks and Ganschow formulated their hypothesis on a very 'dated' understanding of FL learning. They oversimplified the process as mainly one of sound-symbol correspondence, while the learning and teaching process is more complicated to be restricted to such a limited view.

Another shortcoming of FLCA theory was related to 'test anxiety' component. Researchers argued that this component is best understood or classified as an anxiety associated with any situation involving evaluation or testing whether it is the foreign language that is being tested or any other curriculum subject (maths, philosophy, etc.). This point was highlighted in MacIntyre's (1989) study, which on one hand, provided evidence in support of Horwitz's 'tripartite' proposal of FLA, yet showed that test anxiety was not a significant factor influencing L2 performance.

4.4.3 Causes of anxiety

Research has been conducted to investigate the causes of anxiety among L2 learners. Causes have been classified under certain categories for an easier implementation of the proper strategies to mitigate the effects of each set of causes. Young (1991:427) identified six main sources of anxiety: 1- Personal and interpersonal (e.g., competitiveness, low self-esteem); 2- Learners' beliefs about language learning; 3- Instructors' beliefs about language teaching (this is related to how teachers consider their roles as teachers. e.g. drill sergeant vs. facilitator and the environment they create in the classroom), 4- Instructor-learner interactions (this concerns how errors are corrected. 5- Classroom procedures (oral presentations, oral quizzes, being called on to respond in front of the class, etc.), 6- Language testing (when teachers adopt an

approach in teaching, but their test items reflect a different approach, or some test items are more anxiety-provoking than others).

A number of studies that have reported causes of anxiety in line with Young's sets of categories have also reported other causes of anxiety. Among these causes are age differences, personality differences, and culturally fixed beliefs about learning and its procedures (Ohata, 2005); lack of preparation, the type of classroom activity (Aydin, 1999; Mohammad, 2011), gender (Na, 2007), nationality of learners (Woodrow, 2006).

The context of learning, as discussed in Woodrow's (2006) study is another factor that has been found to mediate the degree of language anxiety. For example, the context of learning a foreign language is different from the context of learning a second language. In the latter case, by definition, communication occurs outside the classroom and learners communicate with other non-native speakers and with native speakers in many situations. Context was among the most reported source of anxiety among learners of second languages. Interviews and stimulated recall measures were the most employed methods to obtain information about what might cause anxiety among learners. Woodrow's (2006) study provided evidence of the distinction between 'in-class' anxiety and 'out-of-class' anxiety. Some participants reported experiencing out-of-class anxiety: *'I always feel a little anxious when I speak with native speakers and not inside class but outside class' (ibid: 320),* while others referred to 'in-class anxiety: *' When I stand in front of classmates and students and make a presentation I will feel anxious because I lack practice of speaking' (ibid:320).*

4.4.4 Anxiety effects on L2 learning

Early research focused on the relationship between anxiety and broad measures of language achievement like test scores, proficiency tests, etc. Results showed that anxiety negatively correlated with learners' course grades (Aida, 1994; Horwitz, 1986), standardized proficiency tests (Gardner *et al.* 1987; Young, 1990 Woodrow, 2006), rate of vocabulary learning (MacIntyre and Gardner, 1989, 1994), oral exam grades (Phillips, 1992), and number of ideas expressed and output quality (MacIntyre *et al.*, 1997). In the substantial body of research on anxiety, most of the studies have been correlational in nature, focusing on the relationship between anxiety and different L2 measures. These studies support the debilitative role of anxiety advocated by Horwitz *et al.* (1986), Horwitz (2001) and Krashen (1982, 1985). Relatively few studies have sought to investigate how anxiety affects the process of learning.

MacIntyre and Gardner's (1994) study was the first to examine the subtle effects of anxiety based on Tobias's (1979, 1986) model of language acquisition.

Tobias's model is a model of anxiety and learning: when undertaking a task, anxious learners experience self-directed thoughts which are irrelevant to the task in hand. These thoughts compete with task-related thoughts, leading to minimizing the required focus to complete the task in hand. On the other hand, low-anxiety learners do not experience such thoughts, and therefore they have at their disposal all the required cognitive resources to complete the task. According to Tobias's model (1979, 1986), anxiety effects appear at three stages of learning: input stage, processing stage and output stage. When anxiety interferes at the input stage, it decreases the amount of information registered. Consequently, less input is allowed to be initially recorded for further processing. At the processing stage, anxiety effects can cause second language learning and comprehension to be hindered if the learner cannot, for example, recognize the meaning of new items. At the output stage, where production occurs, anxiety interferes and prevents information stored from being retrieved. For example, students might report 'a freezing up' where they had known the answer, but it just could not be retrieved (Horwitz *et al.*, 1986).

MacIntyre and Gardner's (1994b) study investigated the effects of anxiety arousal on learners' performance at each of the three stages proposed by Tobias's model, namely, input stage, processing stage, and output stage. The results showed that the introduction of video camera resulted in an immediate arousal of the highest rate of anxiety among the experimental groups. Moreover, the group of learners who most recently had their anxiety induced performed significantly less at each of the three stages. This provides evidence of the complexity of the anxiety construct whose effects on the learning process can be manifested in subtle ways at different stages of language learning.

Controversy over the exact role of anxiety in L2 learning has persisted even though its negative effects have been reported by several of studies. Some researchers have instead ascribed a positive role to anxiety suggesting that it can facilitate the process of L2 learning because it motivates learners to work harder and achieve better results. For example, Spielmann and Radnofsky (2001) reported 'euphoric', i.e, beneficial effects of anxiety experienced by the adult L2 French learners they studied. Researchers, however, have warned that care should be taken when advocating a facilitative role of anxiety (e.g. MacIntyre and Gardner, 1994). This is because anxious learners who are aware of anxiety and want to compensate for it are often

found to exert a considerable amount of effort, yet these efforts do not pay off in terms of their performance (Horwitz *et al.*, 1986).

Finally, anxiety has been assigned a neutral role in L2 learning. The best-known researchers who supported the no-role-of-anxiety are Sparks and Ganschow (1991). According to their 'Linguistic Coding Deficit Hypothesis (LCDH)' introduced earlier in this chapter, learners' cognitive abilities are the factors that account for poor L2 performance, while anxiety is merely a result of learners' first language cognitive disabilities, not a cause of poor language learning.

4.4.5 Pedagogical implications

From what has been discussed so far, one can conclude that anxiety is a complex construct. This complexity is reflected in that anxiety does not work independently, but rather it influences and is influenced by other variables in the learning process. This means there is a need to investigate it from the point of view of students (Baily, 1983; Price, 1991; Mohammad, 2011), specialists (Young, 1992), and teachers as well (Ohta, 2005). For example, one language teacher reported that "[W]hen students feel anxiety in classroom activities, they cannot perform to their full capacity, which eventually leads to lowering their intrinsic motivation to learn more." (Ohta 2005: 143). This explains how anxiety and other factors (motivation in this example) can be influenced by each other.

Researchers have referred to the important role teachers can play in anxiety management and ascribed to them the task of creating a low-anxiety classroom environment (Horwitz *et al.*, 1986; Young, 1991; Phillips, 1992), and gave them the following recommendations which were also favoured by learners themselves, as shown here:

- To acknowledge the existence of FLCA, and implement suitable strategies to eliminate its debilitating effects (Horwitz *et al.*; Young, 1991);
- Not to pre-judge anxious learners as careless or inefficient (Horwitz *et al.*, 1986). Language anxiety should be treated as a real obstacle in the way of learners' foreign language learning route, and learners should be encouraged to overcome this obstacle (Phillips, 1992);
- To help students have more positive and ambitious views about their L2 abilities and make more efforts in accomplishing their L2 tasks (MacIntyre *et al.*, 1997). This is because anxious students may tend to underestimate their L2 abilities and bear negative beliefs about them, the thing that is believed to affect their actual L2 performance;

- To introduce Computer Mediated Communication (CMC hereafter) to the learning classroom as a means of providing a more relaxed learning context (Freiermuth 1998; Kern, 1995; Warschauer, 1996);
- To carefully choose the CF strategy with highly-anxious learners and attempt techniques that do not increase those learners' degree of anxiety (Horwitz *et al.*, 1986; young, 1991);
- To understand students' needs and feelings from a learner's point of view, and not to apply teachers' own language learning experiences to their students;
- To establish a friendly relationship between teachers and students. However, some teachers assumed a facilitating role of the teacher as a monitor, organizer and counsellor, while others expressed the desire of being the ultimate authority in the class (Ohta, 2005).

Other suggestions included implementing pair/group work activities, eliminating students' worries about their language scores, and increasing students' motivation to learn the second language and their self-confidence (Mohammad, 2011). Students were aware that it was also their responsibility to reduce their anxiety level by being prepared for lessons, attending all classes, getting involved in classroom activities and revising the material with their classmates (Mohammad, 2011).

In response to the recommendations and guidelines second language anxiety research has accumulated for teachers, the latter reported their inability to continuously detect anxiety signs, especially when they are not obvious in the classroom (Ohta, 2005).

Having introduced the concept of foreign/second language anxiety along with its components, causes and effects on the teaching-learning process, the researcher assumes by no means that anxiety alone can account for learners' differences in L2 learning. Other ID variables come to the equation and are believed to affect language learning either by their own virtue or by interaction with other ID factors. The next section will discuss the second individual difference factor investigated in the present study: second language motivation.

4.5 L2 Motivation

Motivation is a very important factor in any learning process, especially second language learning. Of all the individual difference/ID factors, motivation alongside language aptitude have been found to be the second strongest consistent predictors of second language learning success after the age of onset (Dörnyei, 2005). According to Gardner (1979), learners' aptitude

cannot be the only factor that influences the L2 learning process, especially when considering the successful cases of L2 learners with a low aptitude. Similarly, there are plenty of examples of L2 learners who failed to achieve or persist in their long-term goals regardless of their very high language aptitude and a very well-presented curriculum and trained teachers. There must be other ID factors that can account for these cases. Researchers have believed that motivation is one of those factors that play a very important role in L2 learning. ''It provides the primary impetus to initiate L2 learning and later the driving force to sustain the long and often tedious learning process'' (Dörnyei, 2005:65). Furthermore, unlike first language acquisition, learning a second language is not necessary for survival, though there are many benefits associated with it. This is why motivation is so important in L2 learning (Gardner, 2007).

Researchers have referred to the complexity of the construct of motivation, which has created controversy over its definition. For example, Dörnyei (2001, 2005) and Gardner (2006) criticized the use of 'motivation' as an umbrella concept without distinguishing its multifaceted nature. Table 4.2 includes some of the motivation definitions proposed by different researchers.

Table 4. 2 Motivation definitions

Definition	Source
"The combination of effort plus desire to achieve the goal of learning the language plus favourable attitudes toward learning the language".	Gardner (1985:10)
"Defined as the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes are selected, prioritised, operationalised and (successfully or unsuccessfully) acted out."	(Dörnyei and Otto, 1998:65)
"The effort that learners put into learning an L2 as a result of their need or desire to learn it".	Ellis (2008:972)
"Widely recognised as a variable of importance in human learning, reflected in goals and directions pursued, levels of efforts invested, depth of engagement, and degree of persistence in learning.''	Ushioda (2014:31)

According to Gardner (1985), an individual is motivated when he/she sets a goal for himself, exerts an effort to achieve the goal and feels satisfied upon achieving that goal. For Gardner, three components - desire to achieve a goal, efforts in this direction and satisfaction - are essential in the composition of the construct of motivation.

Relevant to the psychological construct of motivation and often viewed as complementary to it is the sociological construct of investment (Dornyei and Ushioda, 2009). However, the two constructs differ in their views of the language learner and her identity. While motivation views the learner as possessing a simple, fixed and unitary identity, the learner is seen within the construct of investment as having a complex, fluid and multiple identity that is liable to change and reconstruction across time and space. i.e., across different social learning situations and contexts. Norton (2013: 45) defines identity as ''how a person understands his or her relationship to the world, how this relationship is structured across time and space, and how the person understands possibilities for the future''. Norton has located the language learner identity at the centre of the language learning process and argued that a learner's investment in

the language classroom has an important effect on language learning progress.

Noton's comprehensive model of 'investment' is situated at the crossway of identity, ideology and capital, and has been considered as a framework within which language learning can be analysed and understood. It is not within the scope of the current research, however, to discuss this model in detail. Moreover, 'investment' as a construct has not been manipulated as a variable in this thesis. Nevertheless, introducing Norton's model of investment briefly was thought to be interesting and informative.

L2 motivation research is replete with theories and approaches advanced by researchers in order to shed light on the concept of motivation and the mechanisms underlying its functioning in L2 learning. In what follows, I will present the main motivational theories in the field, discuss how these theories have evolved and describe the methods and instruments researchers follow in measuring this construct. Following is a section on the effective motivational strategies that teachers can use to boost learners' motivation to learn the second language and improve their performance.

4.6 Theories of Motivation

The study of motivation in L2 learning dates back to Gardner and Lambert's (1959; 1972) research and has gained a greater importance thereafter, which is evident in the proliferation of

publications on the topic. Subsequent research has built upon Lambert and Gardner work and elaborated on it to delve into unexplored or under-studied aspects of the constructs of motivation and attitude. Dörnyei (2001) noted that a complex environment such as a classroom cannot be explained using one motivational theory or another. This is why a number of theoretical approaches has been proposed to understand the concept of motivation in language classroom. According to Dörnyei (as cited in Dörnyei and Ushida, 2011: 39), research on second language motivation can be divided into three main phases: the social psychological period (1959-1990), the cognitive-situated period (during the 1990s) and the process-oriented period (turn of the century) which was merged with a new phase called the socio-dynamic period of L2 motivation . It is beyond the scope of this thesis to dig deeply into the nature and manifestations of each phase, yet a general discussion of these phases is presented below.

4.6.1 The social-psychological period

Early studies on L2 motivation have their roots in the field of social psychology where L2 motivational researchers have adopted many terms and measurements to define and measure the construct of L2 motivation. This social psychological approach was the basis for subsequent approaches and paradigms which attempted to provide an account of the nature of motivation and design instruments to measure it. The pioneers of this period were Gardner with his theory of motivation: integrative motivation and the socio-educational model of second language acquisition and Clement's (1975) theory of linguistic self-confidence (see below). Gardner's ideas on motivation mean that he is considered the founder of research on motivation, and his theories have provided a platform and inspired many motivational researchers and theories in the field. Gardner and Lambert (1959) introduced the concept 'integrative motivation' which consisted of three main components: integrativeness, attitudes toward the learning situation, and motivation. This was the basis of the socio-educational model proposed by Gardner (1979), which took into account both learners' aptitude and motivation in explaining L2 learning with more focus on motivation. In a revised version of the socio-educational model, Gardner (1985) introduced learners' attitude towards L2 learning, intensity and desire to learn the second language to his model for a full understanding of motivation as a construct.

Gardner (1985) discussed that L2 learners have two basic goals when starting to learn an L2: integrative orientation and instrumental orientation, which is referred to as the integrative/instrumental duality of L2 Motivation. Integrative motivation refers to the desire to learn an L2 to become a member of the L2 community. Instrumental motivation on the other hand refers to the tendency to learn the language for purposes of getting a better job or

improving one's academic/ social status. Of the two orientations, the integrative motivation, with its three dimensions (integrativeness, attitudes towards the learning situation, and motivation) is the most studied and investigated in the field of L2 learning.

The socio-educational model of second language acquisition was developed after years of research in an attempt to provide a fundamental basis for understanding the role played by different classes of variables such as motivation, attitude, intelligence, educational and cultural contexts, etc. It is intended to provide a platform where the role of these variables could be understood in the context of L2 learning (Gardner, 2010: 22). Gardner's social psychological approach was criticized for not sufficiently taking attitude into account; we return to this further below. R. Ellis (2004) also criticized it for failing to 'acknowledge the "resultative dimension of motivation". Gardner viewed motivation as resulting in good or poor L2 achievement, whereas motivation can instead be a result of successful L2 achievement. Moreover, this approach overlooked the dynamic nature of motivation, i.e. it is subject to change based on learners' experiences and other past and current external factors (R. Ellis, 2004).

Another socio-psychological ideas on motivation, **the theory of linguistic self-confidence**, was proposed by Clement (1975) as an alternative to Gardner's ideas. Linguistic self-confidence plays a vital role in motivating L2 learners. It is a person's belief in their 'ability to produce results, accomplish goals, or perform tasks competently' (Dörnyei, 2005: 73). This theory is a social one in that confidence is held to be achieved through interaction and communication between L2 learners and members of the L2 community. When L2 learners feel confident communicating with the L2 community, they will be more motivated and encouraged to learn and speak the L2.

4.6.2 The cognitive-situated period

The socio-psychological approach was dominant until the cognitive revolution in psychological research during the late 1980s and 1990s gave birth to a number of new cognitive motivation theories. L2 motivation researchers made use of such theories in order to better understand the construct of motivation in L2 learning. During this period, the emphasis shifted from the social context and community to cognition and mental processes**.** Three main theories prevailed in this period: self-determination theory, attribution theory and task motivation theory.

Self-determination theory (Deci and Ryan, 1985) have made a distinction between intrinsic motivation, which refers to "behavior performed for its own sake", and extrinsic motivation,

which "involves regulation coming from outside of the learner through the incentive of external rewards" (Dörnyei *et al.*, 2014:18). Noels *et al.* (2003) created the–Language Learning Orientations Scale to measure whether an L2 learner is intrinsically or extrinsically motivated according to a continuum of self-determination. This theory emphasized the positive role supportive teachers can play in intrinsically motivating language learners.

Attribution theory (Weiner, 1992) postulates that the reasons learners ascribe to their success or failure in past learning situations have a great impact on their motivation in future attempts in similar learning situations (Dörnyei, 2005). Researchers have argued that for a positive motivation in language learning, learners attribute their success to personal factors, while they do attribute their failure to short-term difficulties that can be defeated.

Task motivation theory according to which, being engaged in a specific task activates different levels of motivations learners have at different actional contexts (Dörnyei, 2005). Research focus, according to this theory, should lie on the effects of motivational traits on learners' behaviours during the course of learning, such as their engagement in the tasks they are performing rather than on how such motivational traits correlate with broad second language learning measures, such as test scores or proficiency measures (Dörnyei 2003).

4.6.3 The process-oriented period

This period started flourishing when the cognitive approaches to L2 motivation were prevalent and was characterized by an emphasis on the dynamic nature of motivation. In other words, the models proposed in this period sought to track the changes in learners' motivation throughout their L2 learning process (Dörnyei, 2005). Unlike the socio psychological model which viewed motivation in a static way, this approach viewed motivation as a dynamic, fluctuating and shifting factor throughout time. The two main models in this period are the process model and the motivational self-system.

4.6.3.1 Process model

This model was developed by Dörnyei and Ottó (1998). It proposed three chronological stages of L2 learning process: the preactional stage, the actional stage, and the postactional stage (Dörnyei, 2005). The preactional stage is marked by the learner's decision to learn the second language and the goals and aims the learner sets before the actual learning starts. In this stage, the learner's motivation is influenced by the values they associate with learning the L2, their beliefs about L2 learning, and their attitudes towards the L2 community (Dörnyei, 2005). In

the actional stage, the motivation generated in the preactional stage has to be maintained throughout the learning process (Dörnyei, 2005). This stage is also marked by the learner carrying out language learning tasks and reviewing their achievements in these tasks. Maintaining the learner's motivation is mainly affected by the quality of the learning experience, their sense of autonomy and teachers' and parents' encouragement. In the postactional stage, the learner reflects on their learning experience and self-assess their achievement (Dörnyei, 2005). This is very important in determining the learner's future actions. For example, if they have had a negative L2 learning experience, they will not be motivated or willing to peruse it, and vice versa.

4.6.3.2 Motivational self-system

According to Dörnyei (2009), the motivational self-system consists of three components: the ideal L2 self, ought-to L2 self, and L2 learning experience. The ideal L2 self is the learner's conceptualized ideal future image of himself as an L2 learner. This ideal L2 self is "a powerful motivator to learn the L2 because of the desire to reduce the discrepancy between our actual ideal selves" (Dörnyei, 2010: 29). This is argued to promote integrative and internalized instrumental motivation in language learning (Dörnyei, 2009). The ought-to L2 self refers to the attributions the learner believes they should possess in order to achieve their aims and avoid negative outcomes. This component is related to the extrinsic motivational orientations (Dörnyei, 2009). The last component is the L2 learning experience which refers to the learning environment and context and the learner's personal learning experience.

Table 4.3 from Orio (2013: 23) summarizes the principal theories discussed above in the study of L2 motivation as multi-dimensional concept:

Table 4. 3 Orio's (2013: 23) table of main theories of motivation and contributions to motivational research.

Periods	Author(s)	Theory	Contributions to L2 motivation research
Socio-psychological Period	Gardner and Lambert (1959)	Socio-educational model of SLA	Socio-educational model of SLA Integrative motivation AMTB
	Clement (1977)	Linguistic self-confidence	Linguistic self-confidence as a motivational factor
Cognitive-situated period	Deci and Ryan (1985) Noels et al. (2003)	Self-determination Theory	Extrinsic/intrinsic motivation Travel, knowledge, friendship and instrumental orientations The language learning orientations scale
	Weiner (1992)	Attribution theory	Success and failure attributions influence motivation
	Different authors: Dörnyei (2002), Julkunen (1989)	Task motivation	Tasks = units of learning Different tasks = different motivation
Process-oriented period	Dörnyei & Ottó (1998)	Process model of L2 motivation	Motivation: dynamic factor Motivation as a process
	Dörnyei (2005)	L2 motivational self-system	L2 self Ought –to self L2 learning experience

Gardner's theory has been criticized due to the model being based on his research in Canada, which is a bilingual context with two official languages, English and French. This is why Gardner's emphasis was on 'integrativeness' where an individual's motivation to learn one of the two languages (where the other one is his/her first language) would be fostered by a desire to integrate with the other community. The attitude towards the L2 community or the L2 itself cannot be applicable to monolingual contexts, i.e. to the classroom in a country where there is only a single official language. For example, in FL contexts, the foreign language is not spoken outside the classroom, the learner can only be minimally integratively motivated as there is no other second language community to be integrated with (Dörnyei, 2010).

Thus in the socio-psychological period, what influences motivation included attitudes and the constructs of motivation and attitude have been investigated alongside each other. This connection has been highlighted by Gardner (1985) who claimed that a highly-motivated second language learner is assumed to hold a positive attitude towards the second language. Similarly, a learner with a high degree of integrative motivation is believed to have positive attitude towards the culture and people of the target language. However, there is a plenty of attitudinal variables that are interrelated, such as attitudes towards the L2 community and attitudes towards the learning contexts, the teacher, the curriculum, etc. All of these factors interact with each other to shape L2 learners' attitude, which has a great influence on their L2 achievement. We now focus on attitude.

4.7 L2 Attitude

The early research on motivation and attitude in L2 learning dates back to Lambert's (1955) conclusion that the desire to learn an L2 is triggered by either an interest in the L2 community or an interest in the L2 itself. Since then, a substantial body of empirical research has accumulated on the relationship between motivation, attitude and L2 achievement (Gardner and Lambert, 1959) though speculations about the existence of such correlation had been proposed earlier (Arsenian, 1945; Marckwardt, 1948).

To measure motivation in L2 learning, researchers have proposed a number of questionnaires, some of which include attitude, namely Gardner's (1958) Attitude Motivation Test Battery (AMTB) and more recently the Language Learning Orientations Scale (Noels *et al*., 2003) and the Motivation Orientation of Language Teaching (Guillauteaux and Dörnyei, 2008). These questionnaires have been a common method used to investigate learners' motivation in a

number of contexts. However, as researchers have proposed modified versions of these instruments used them depending on the context and the purpose of the research.

One relevant study is Masgoret and Gardner's (2003) investigation of the relationship between five variables of Gardner's socio-educational model presented in the previous sections and L2 achievement. The five components were: Integrativeness; attitudes toward the learning situation; motivation; integrative orientation; and instrumental orientation. The meta-analysis of over 10,000 participants revealed a positive relationship between these five variables and L2 achievement. However, motivation achieved the higher rate of correlation with L2 learning than any of the other four variables.

Bernaus and Gardner's (2008) study investigated teachers' strategies as perceived by teachers and learners and the effects of these strategies on learners' motivation (including attitude) and English language achievement. Results indicated that integrativeness, attitudes toward the learning situation, and instrumental orientation were positive predictors of students' motivation to learn English and that motivation was a positive predictor of English achievement. On the other hand, attitudes toward the learning situation along with language anxiety were negative predictors of English achievement.

As is the case for motivation, discussed above, researchers have argued that attitude can also be enhanced by achievement in the L2. However, others (Gardner, 1985) see the relationship as not linear, but rather reciprocal, which is the heart of the socio-educational model.

4.8 Pedagogical Implications

Research into motivation has yielded findings that can be of pedagogical use in order to develop motivational strategies to make the teaching-learning process more engaging and enjoyable. In classroom contexts, teachers were advised to:

- Implement encouraging teaching strategies and methods and to maintain a relaxed classroom environment where learners' motivation to learn the target language can be fostered and enhanced.
- Give learners positive feedback on their endeavours to learn and reinforce their efforts so that they maintain motivation until they attain their goals.
- Build a positive relationship with their students because the friendly relationship between teachers and leaners is said to motivate learners in the pursuit of their learning.

- Since the shift form teacher to the learner as the most important part in the learning process, learners themselves were attributed roles in motivating themselves.

  Dörnyei (2001) proposed a comprehensive framework of motivational strategies and categorized them under four main categories (See figure 4.1 below)

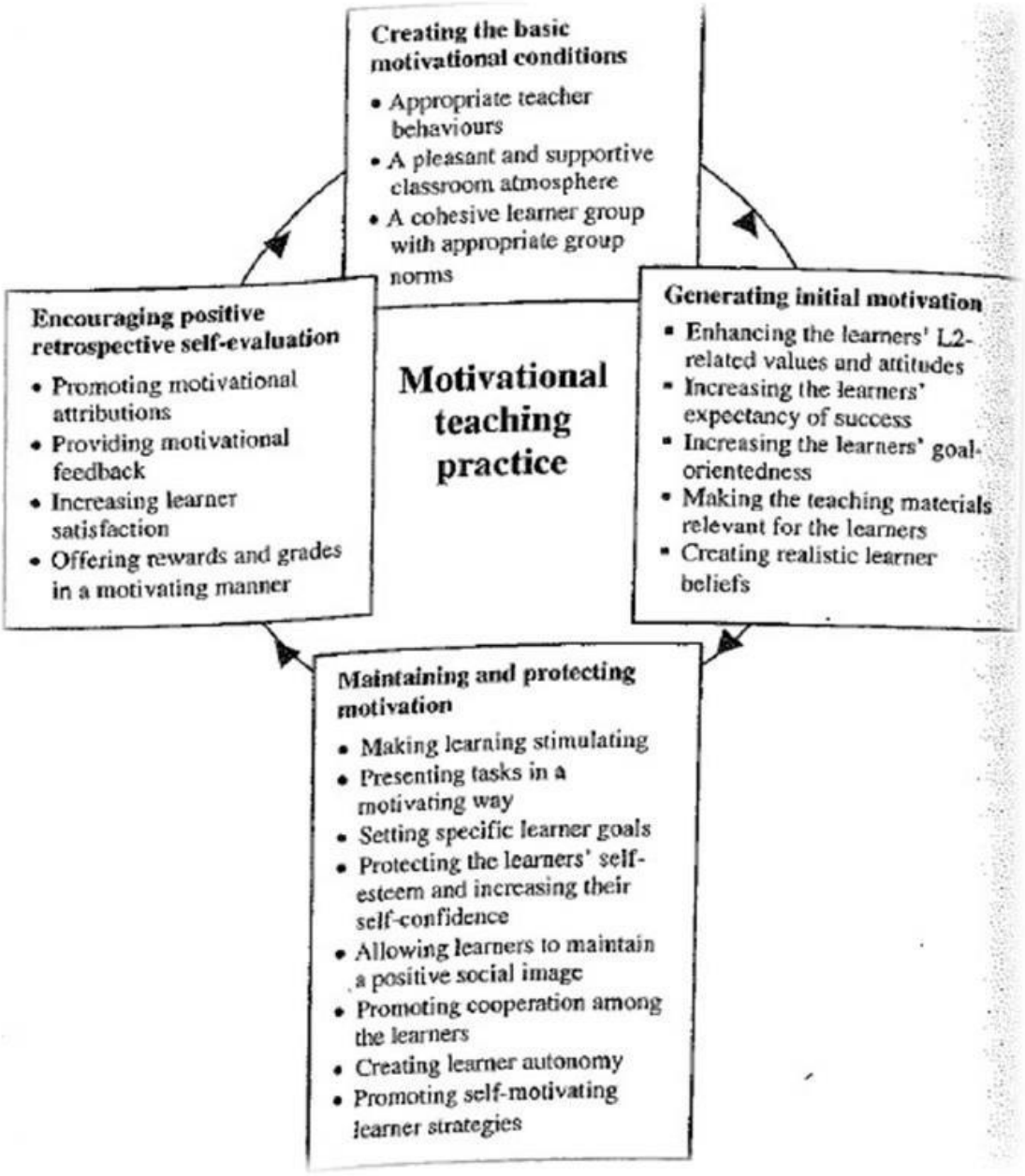

Figure 4. 1 components of motivational teaching practice in the L2classroom (Dörnyei, 2001: 29)

However, “classroom research shows that teachers often lack either the will or the means to attend to their students’ emotional well-being” (Keblawska, 2012: 157). Moreover, keeping students motivated is considered one of the most challenging tasks for teachers (Hadfield and Dörnyei, 2013).

4.9 Individual Differences and Corrective Feedback

The role of individual differences in relation to corrective feedback/CF and L2 learning has not been given much attention until the last two decades. Little research has been done to investigate how the variables discussed above might mediate CF effectiveness. As Ellis (2010: 339) noted:

> The vast bulk of CF studies have ignored learner factors, focusing instead on the relationship and the effect of specific CF strategies and learning outcomes […] The general neglect of individual difference factors in CF studies is surprising because it would seem self-evident that learners will vary considerably in how they respond to CF, whether oral or written.

As has been discussed above, individual differences include both affective factors such as motivation, attitude, anxiety, etc., and cognitive factors such as language aptitude and level of working memory.Where such individual difference factors have been studied they have been shown to affect the role CF plays in L2 acquisition. For example, DeKeyser (1993) reported that learners who were less extrinsically motivated and less anxious were able to benefit from teaching which incorporated CF, whereas learners who were more extrinsically motivated benefited more when teaching did not include a CF component. Havranek and Cesnik (2001) found that learners with a high degree of verbal intelligence as determined by their verbal intelligence test scores were able to make more use of the CF they received than those who were less intelligent and extrinsically motivated.

On the level of cognitive variables, Mackey *et al.*’s (2010) study found a relationship between learners’ level of working memory (WM) defined as ‘the ability to maintain information in an active and readily accessible state, while concurrently and selectively processing new information’’ (Conway *et al.,* 2007b: 3) and their production of modified output following recasts. More specifically, learners with higher level of WM capacity modified their output more than learners with lower level of WM capacity. However, the relatively weak relationship found between WM capacity and modified output suggests that it is not only WM, but also other factors which may influence learners’ production of modified output. This again supports

the claim that the effects of both cognitive and affective factors should be considered in L2 learning.

However, neither these three studies nor other studies have isolated different types of corrective feedback. Moreover, none have investigated the effects of individual variables on the acquisition of specific linguistic structures. In contrast, Sheen's (2008) study, as discussed in Chapter 3, was more specific about the type of CF, the individual variable and the type of the linguistic structure it examined. The study showed that recasts were more effective for low-anxiety learners who not only tended to modify their output, regarding English article errors, following the teacher's recasts, but also tended to repair their original erroneous utterances more often. However, in this study, the control group did not participate in the classroom communicative activities, which made it difficult to determine whether it was the task effect or the feedback effect that was responsible for the results. Furthermore, learning outcomes were tested through written measures only. This implies that only learners' explicit knowledge of English articles was tested. The use of an oral production measure could have helped test learners' implicit knowledge as well and would have yielded comparable results which could have shown whether these variables have an effect on implicit or explicit knowledge or both.

More recently, Rassaei (2015) investigated the extent to which low vs. high anxiety EFL learners benefit from recasts and metalinguistic feedback. Through a pre-test-post-test design with three measures at each testing session, the results indicated that the low-anxiety leaners benefitted from both types of feedback yet benefitted more from metalinguistic feedback. On the other hand, the high-anxiety learners benefitted from recasts (i.e. implicit) to a greater extent than they did from metalinguistic feedback. In another study, Rassaei (2015) examined whether foreign language classroom anxiety influences learners' perceptions of two types of feedback; recasts and metalinguistic feedback during task-based interaction. Analyses of stimulated recalls data revealed that low-anxiety learners were more able to notice the gap between their erroneous utterances and the target language forms and more able to perceive the corrective force behind both types of feedback.

In a similar vein, in a classroom context, Goo (2012) compared the effects of recasts and metalinguistic feedback on the acquisition of *that*-trace filter and to what extent individual differences in working memory level might mediate the effects of these two CF techniques. The results showed that both types of feedback had similar, positive effects on learners' acquisition of the target structure. More importantly, differences in WM level mediated the

effects of recasts but not metalinguistic feedback. Goo (2012) interpreted this as the 'attention control', which is an important component of WM in the noticing of recasts, but not in the noticing of metalinguistic feedback.

Yilmaz and Granena (2016) investigated the extent to which explicit language aptitude influences the way explicit correction and recasts would work for ESL learning. 48 ESL learners were assigned to three groups and performed oral tasks where they received either type of CF or no feedback on their indefinite articles errors depending on each condition. Learners' performance in the target structure was tested three times following the pre-test, treatment, immediate post-test and delayed post-test design, and their level of language aptitude was measures using three subtests from the Language Aptitude Test battery (LLAMA) (Meara, 2005). Results showed that explicit language aptitude predicted the post-test results in the explicit correction group. On the other hand, no relationship was found between explicit language aptitude and the recasts group.

Li (2018) compared the effects of prompts and recasts on short-term EFL learning by 90 Chinese university students, and whether learners' ID in relation to proficiency level, language anxiety and orientation to correction would mediate CF effectiveness. Analyses of pre-test and post-test scores revealed that recasts were beneficial for learners regardless any of the three ID variables investigated in the study. On the other hand, prompts effectiveness were only evident for low-proficiency learners, low-anxiety level or learners with a high level of orientation to correction. This lends support to the argument that learners ID factors mediate the role CF plays in L2 learning, and that these factors should be considered when employing a certain type of feedback or another.

4.10 Methodological Issues in ID Research

As pointed out above and also evident in the description of a variety of studies, most in the field of ID and L2 learning have been quantitative in nature. They employ data collection instruments such as questionnaires and surveys consisting of Likert-scale items and are designed to gain information from learners about specific aspects of their language learning experience (Ellis, 2004, 2008; Pawlak, 2015). While some of these instruments have their roots in general psychology, a great number of them has been designed particularly to investigate language learners'' individual factors (Pawlak, 2015). Below is a list of the frequently used instruments in the measurement of ID based on Ellis (2004: 528):

Table 4. 4 Frequently used instruments in researching individual difference factors in SLA

Individual difference factor	Research instrument	Brief description
Language aptitude	Modern Language Aptitude Test (MLAT) (Carroll and Sapon, 1959)	A battery of tests measuring phonemic coding ability, grammatical sensitivity and rote learning ability.
Learning style	Group Embedded Figures Test (Witkin et al., 1971)	A test requiring learners to identify geometrical shapes embedded in larger figures.
	Perceptual Learning Style Preference Questionnaire (Reid, 1987)	Questionnaire measuring four perceptual learning styles (visual, auditory, kinesthetic, tactile) and two social styles (group and individual).
Motivation	Attitude Motivation Index (Gardner, 1985)	A questionnaire designed to measure learner attitudes, orientations, desire to learn the L2 and motivational intensity.
Anxiety	Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz & Cope, 1986)	A questionnaire measuring the degree and sources of learners' classroom language anxiety.
	Input Anxiety Scale, Processing Anxiety Scale and Output Anxiety Scale (MacIntyre & Gardner, 1994)	Three short questionnaires designed to investigate learners' anxiety at three levels of processing.
Personality	Eysenck Personality Inventory (Eysenck & Eysenck, 1964)	A psychological questionnaire measuring different personality traits, including extraversion/introversion.
Learner beliefs	Beliefs about Language Learning Inventory (Horwitz, 1987a)	Questionnaire investigating five areas of learner beliefs; language aptitude, difficulty of language learning, the nature of language learning, effective learning and communication strategies, and motivation.
Learning strategies	The Strategy Inventory for Language Learning (Oxford, 1990)	Questionnaire that exists in several forms (e.g., for learners of English as a second language (ESL) and for English speaking learners of foreign languages) measuring direct and indirect learning strategies.

Problems regarding the analysis of quantitative data can be reflected in the shortcomings of the correlational analysis which can only determine whether there is a relationship between a certain ID factor, such as anxiety for instance, and a certain L2 measure, rather than specifying the direction of the relationship (the cause- and-effect) (Ellis, 2004). The exclusive use of quantitative data collection methods in the study of ID has also been criticized for its failure to yield a valid and reliable measurement of ID factors. Quantitative research on IDs has also been criticized for providing only "general and oversimplified information that may not reflect learners' attitudes, feelings, thoughts or behaviours as they deal with different tasks in different contexts" (Pawlak, 2015: xxv). In the literature on IDs and L2 learning, there have been calls to complement or even replace the quantitative data collection methods with qualitative ones such as interviews, learners' diaries, learners' autobiographies in order to get deeper insights into the constructs under study. Ellis (2004: 529) remarked that a hybrid approach would be "likely to provide a much richer and more personalized account of the factors responsible for learner difference."

Ellis (2004) refers to other methodological problems in the study of ID factors such as the existence of different instruments that measure the same ID factor, which makes it difficult to compare research findings.

These methodological problems were the driving force behind researchers' shift in the last several decades to qualitative research methods and data collection techniques (Spielman and Radnofsky 2001; Ushioda, 2001; Gregersen and Horwitz 2002; Pawlak 2008a). Some of these researchers have even taken a very strong position and completely refused the use of questionnaires and other quantitative instruments (e.g. Spielman and Radnofsky 2001).

Regardless of the shortcomings of questionnaires and other quantitative measures developed to measure ID factors, a number of commonly-used instruments are well-established and their use has continued in the area of ID and L2 learning. One reason for this is that qualitative research requires a longer period of time to be conducted (Ellis, 2004, 2008).

4.11 The Present Study

This chapter has presented an overview of three types of individual differences that are argued to play a vital role in second language learning. The researcher has attempted to highlight the main theories pertinent to these variables along with an overview of research done in the area. Nonetheless, Learners' individual differences are complex and require careful examination taking into account their multi-faceted nature, which is evident in the different approaches,

models and theories that were developed in order to understand how these factors affect L2 learning. Accordingly, research into the role of ID in L2 learning has been inconclusive since researchers have attempted different operationalizations of the constructs investigated and consequently, employed different instruments to measure these constructs. Early studies on the nature of ID and their effect on L2 learning were quantitative in nature. However, the failure of these quantitative studies to capture the peculiarities of the learning process has necessitated an employment of more qualitative, in-depth measurements of ID factors.

The role of CF in relation to learners' ID is still an understudied topic. Further research is warranted for a deeper understanding on the nature and the direction of the relationship between CF and ID factors and the interaction between these factors themselves. The question of when recasts are effective and with what type of L2 learners is an important question that deserves further investigation. In the next chapter, the researcher will give a detailed account on how the present study investigated the role of CF and the mediating ID factors (anxiety, motivation and attitude). As has been said earlier in this chapter, researching any of these variables would be fruitless if findings of research were not put into practice to outline pedagogical recommendations to help facilitate the L2 learning process. Studies on the role of ID in L2 learning have attempted to yield pedagogical guidelines. However, the discrepancy between research findings and the actual teaching-learning context and situation has problematized the applications of these pedagogical implications in real-world learning contexts.

Chapter. 5 Methodology

5.1 Introduction

As discussed in the previous chapters, the role of corrective feedback in second language learning has been a very important research topic due to its high significance for second language theory and pedagogy. It has been studied drawing on a number of theoretical approaches and teaching-learning practices. The research conducted in this area, however, raised more questions than it answered, especially with regards to the role of learners' individual difference factors in how corrective feedback works. Further research is still required in order to advance our understanding of how such variables need to be considered, approached and measured when investigating the effectiveness of different corrective feedback strategies, which is the aim that the present study was undertaken to achieve.

This chapter describes the methodology the researcher used to generate the data required to answer the research questions of the study. The study aims at investigating the role of recasts in L2 learning of English past tense, and whether learners' individual differences (ID) in relation to their motivation to learn English, attitude towards English language and community, and their English language anxiety level play a role in how they benefit from feedback on English past tense errors.

The chapter begins with a reminder of the research questions of the study. It proceeds with an overview of the research paradigm, design, and procedures. Afterwards, details of the sample and the sampling techniques used are presented. This is followed by a brief presentation and discussion of the target structure under investigation. Further to this, a detailed account of the study treatment and testing materials and tools is presented. Following is a section on the ethical considerations the researcher needed to address in the study context. Issues pertaining to validity and reliability in the context of the present study are discussed next. The chapter concludes with a summary of the main areas covered in the chapter.

5.2 Research Questions

RQ 1. Do recasts lead to learner uptake and/ repair of past tense errors?

RQ 2. Do recasts have differential effects on learner uptake and/ repair of regular vs. irregular past tense errors?

RQ 3. Do partial vs. full recasts have differential effects on learner uptake and/ repair of past tense errors?

RQ 4 a) Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense - as measured in oral production?

b) Do recasts have differential effects on L2 learners' acquisition of regular vs. irregular past tense?

RQ 5 a) Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense- as measured in written production?

b) Do recasts have differential effects on L2 learners' acquisition of regular vs. irregular past tense?

RQ 6. Does language anxiety influence the effect that recasts have on the grammatical accuracy of L2 learners' English past tense?

RQ 7. Does the provision of recasts have an influence on learners' anxiety levels as measured by their HR?

RQ 8. What is the relationship between learners' motivation/attitude towards English and their improvement in the use of past tense?

Table 5. 1 Research questions and the relevant data sources

No	Research Question	Data Source
1	Do recasts lead to learner uptake and/ repair of past tense errors?	Researcher-learner interaction
2	Do recasts have differential effects on learner uptake and/ repair of regular vs. irregular past tense errors?	Researcher-learner interaction
3	Do partial vs. full recasts have differential effects on learner uptake and/ repair of past tense errors?	Researcher-learner interaction
4	Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense - as measured in oral production?	Learners' oral tests scores
5	Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense- as measured in written production?	Learners' written tests scores
6	Does language anxiety influence the effect that recasts have on the grammatical accuracy of L2 learners' English past tense?	Questionnaire Learners' tests scores
7	Does the provision of recasts have an influence on learners' anxiety levels?	Heart rate data
8	What is the relationship between learners' motivation/attitude towards English and their improvement in the use of past tense?	Questionnaire Learners' tests scores

5.3 Research Paradigm

The philosophical view of knowledge pursued in this research falls under the 'positivism' paradigm of research. Paltridge and Phakiti (2015) define positivism as ‘'a research philosophy that believes that reality can be understood objectively. There is a set of immutable laws or theories that govern reality. Reality is seen as quantifiable and measurable’’ (p.16). This paradigm is considered the basis of quantitative research. The main argument of positivism is that scientific knowledge is the only true knowledge and that social phenomena can be studied in the same way natural phenomena are studied, using a scientific method. As such, for positivists, what applies for natural sciences can be applied on social sciences and on the study of human behaviour in order to establish ‘universal’ laws that can be further used to predict people’s behaviour in societies (Comte and Bridges, 1865, Bryman, 2008). Positivism was influenced by ‘empiricism’ which focuses on observable facts only. In other words, true and valid knowledge can only be achieved based on ‘positive’ information obtained from observations around us (Comte and Bridges, 1865). It undermines any knowledge that is based on facts which cannot be demonstrated.

The present study followed a positivist philosophical view, both ontologically and epistemologically. Regarding ontology, i.e., beliefs and views of the nature of reality or being, the current study reflects the researcher’s view of reality as external, objective and independent of the observer and which can be realized by our senses (Hudson and Ozanne, 1988). In other words, the researcher’s view on language learning is based on a belief of reality as it exists ‘out there’ waiting to be investigated objectively with no bias and regardless of the researcher’s views or opinions. Regarding epistemology, i.e., the nature of knowledge and how one acquires it (Carson *et al*., 2001; Cohen *et al*., 2011), the present study assumes an objectivists standpoint in relation to the research enquiry (Paltridge and Phakiti, 2015) whereby the researcher used the methods used to study natural phenomenon to investigate social phenomenon and human behaviours. The ontological and epistemological stances in this study are reflected in the use of the quantitative approach that allows the collection of factual data, the use of quantitative data collection methods (questionnaires, etc.), the quasi-experimental design with pre-post-tests methods and the use of statistical analyses in the data analysis in the present study. The empirical testing of the research phenomena and the quantifying of the data in this research conform to the very important keys in achieving scientific knowledge which are ‘empiricism’ and ‘quantifying’. Under the positivist approach, there has rarely been a mention of the research positionality as opposed to qualitative research where positionality has been considered as an integral element of the research process. ‘’Without contextualising the researcher and research environment in qualitative studies, often

the meaning of any research output is lost.'' (Jafar, 2018: 323) However, my positionality in relation to the current research can be discussed in different phases of the study. At the very beginning when choosing the research topic and at every step of formulating and revising the research questions, my long experience as an EFL learner and also my short expertise as an EFL teacher have both definitely impacted the way I set out my research inquiry.

During the research process, I think I was considered as both an outsider and an insider at the same time. Having a lot in common with my participants, such as our first language, cultural aspects, probably being a student myself, might have led the participants to see me as an insider with whom they could share their concerns about ESL learning and other related factors that influence and impact the learning process and its progress. On the other hand, being the researcher with a higher level of English and whom participants could have considered as assessing their knowledge of English and evaluate their performance could have led them to perceive me as an outsider. However, the positions 'outsider' and 'insider' constitute a continuum rather than a dichotomy and the researcher might be situated at varying points of the spectrum, or even change position at different stages of the research project.

Modelling is another way of how positivism guides the present study. An overview of studies on second language learning reveals that a lot of factors and variables are believed to affect the

learning process, such as age of learning, learners' first language, learners' motivation, learners' attitudes towards the second language itself, classroom context, the type of corrective feedback the teacher uses in correcting learners' errors, etc. (Sheen, 2011). The list of variables can be extended with an infinite number. However, it is impossible to control for all affecting factors in a single piece of research. As such, a researcher can focus for example on one, two or three factors and empirically investigate their influence on L2 learning. In so doing, the researcher is establishing a model which can be further tested by another researcher who might wish to add some other variables to the model, and so on. Gradually, more comprehensive models of L2 learning will emerge and which can provide new insights on how to better teach a second language and consequently lead to better learning outcomes. This is exactly what the current research aimed to achieve.

Positivism, like any other research paradigm, has points of strengths and points of weakness. Four main advantages of positivism are highlighted here: Firstly, research done following positivist's methods of quantitative inquiry is believed to be 'systematic', 'rigorous' and 'tightly controlled' (Dörnyei, 2007). Secondly, the data collected is reliable and can be generalized and applied to other contexts since it involves a large sample size and is representative of a wider population (Mackey and Gass, 2005). Thirdly, research can be done in a relatively short period of time since the data is analyzed using SPSS and similar types of quick and less time-consuming computer software (Dörnyei, 2007). Finally, quantitative research ensures researcher objectivity as he/she can stay far from the subject he/she is examining and be objective when reporting the results that may support or refute the hypothesis stated at the beginning of the research.

On the other hand, there are disadvantages of positivism. Firstly, though the research process can be done in a relatively fast way, quantitative research requires a prolonged period of preparation, and all variables and aspects of the study should be identified prior to conducting the study (Richards *et al*. 2011). Secondly, positivist research cannot be completely objective as the researcher is supposed to subjectively choose his subject matter from the beginning and it can also be subjective when interpreting the data (Dörnyei, 2007). Thirdly, it is more concerned with the general trends and tendencies of a particular group in general and it disregards the individual cases of subjects in order to create general laws of human behaviour that can be applied to other groups. In other words, it rules out any 'idiosyncratic' feature in favour of the commonality of the whole group. 'They average out responses across the whole

observed group of participants, and by working with concept of averages, it is impossible to do justice to the subjective variety of an individual life'. (Dörnyei: 35).

5.4 Research Design and Procedures

One of the current study aims is to investigate recasts' immediate effects, i.e., whether recasts lead to learner uptake and repair of their past tense errors and whether recast characteristics (partial vs. full) and the type of the target structure (regular vs. irregular) are mediating factors. For this aim, participants were involved in five practice sessions on a one-to-one basis with the researcher. These sessions started after administering a pre-test and took place at Newcastle City Library. During these dyadic interaction sessions (20-30 minutes each), participants were involved in a number of communicative activities with the researcher where the recasts group received recasts on past tense errors, while participants in the control group did not receive any type of CF on their past tense errors. The audio-recorded treatment sessions were transcribed and coded for the occurrence of past tense errors, recast moves and learners' responses.

The other aim of the present study is to examine the effects of recasts on learners' development in the use of English past tense and whether learners' ID factors and type of target structure are mediating factors. For this aim, the study employed a quasi-experimental design with a pre-test-treatment-immediate post-test and delayed post-test (see figure 5.1 below). In this design, the independent variables: group assignment (recasts vs. control), individual difference factors (anxiety, attitude and motivation levels) were manipulated to determine their effects on learners' learning of English past tense as measured by the dependent variables test scores (pre, immediate and delayed). After the end of the treatment sessions, the immediate post-test was administered. Then, two weeks later, the delayed post-test was administered. Participants' scores on the three tests were used for statistical analyses, the details of which are presented in the next chapter.

In order to eliminate subjective bias, such as the placebo effect, from the test results, the experiment was single-blinded (Algarawi, 2011). This means that participants in both groups were not told about the nature of the treatment they were assigned to. However, they were informed about the general aims of the experiment and their expected roles in the study and that their performance at all stages of the study was going to be recorded. Moreover, in order to control for as many variables as possible in the experimental design, participants completed a general questionnaire prior to the pre-test and the treatment sessions. Data obtained from this questionnaire informed the demographic details of participants in this study and were used to

ensure that no variations in the sample exist that might influence the findings in the present study (See appendix 5b). No major variations were found among participants.

At each of the three testing sessions (i.e., the pre-test, the immediate post-test and the delayed post-test), two measures were administrated (oral production test and written production test). The first thing learners did was to take a proficiency test (Oxford Quick Placement Test) to determine their proficiency in English language and hence, their appropriateness for the study (details are presented in a separate section). Participants also completed a number of questionnaires; Foreign Language Classroom Anxiety Scale (FLCAS) and Attitude, Motivation Test Battery (AMTB) for the aim of finding the relationship between learners' individual differences (ID) in relation to certain constructs (anxiety, motivation and attitude) and their performance in the tests, and whether they made use of the recasts provided to them during the treatment sessions. Further to the anxiety questionnaire, an online physical measurement of learners' heart rates was administered using sensors attached to each participant. A full account of the instruments used is presented in subsequent sections.

In addition to the proficiency test scores, learners' scores in the pre-test were used to check their appropriateness for the study. Another purpose of the pre-test was to ensure 'initial comparability of groups' (Mackey and Gass, 2005) and to give the researcher a chance to track any development in further testing after the treatment. For example, if one of the groups significantly outperformed the second group in the pre-test, there would not be a chance to investigate the effect of the treatment in subsequent testing. The researcher did a small-scale pilot study to test all instruments and aspects of the study before conducting the actual study. A detailed account of the pilot study is presented in a separate section.

Groups performed similarly in the pre-test but differently in the post-test. This is most likely to be the effect of the treatment. We cannot assume task effect or practice effect to be the reason since both groups performed the same communicative tasks with the researcher. With regard to practice effect outside the experiment time, the researcher could assume no significant effect of that based on the general questionnaire learners in both groups completed where they reported a minimal use of the target language outside their classroom time. Any effect of instruction can also be eliminated since all participants are at the same level at college and at the same proficiency level as identified in the present study. The effect of learners' L1 and its syntactic properties that might be similar/different from the target structure in the present study is excluded from the equation since all participants have the same linguistic background, i.e., L1 Arabic. Moreover, if there is any effect of the researcher, it should be there for both groups

since only one researcher performed all the study phases with all participants.. Other variables that could not be controlled in the present study could have affected the findings, like cognitive individual difference factors, such as, working memory, language aptitude, etc.

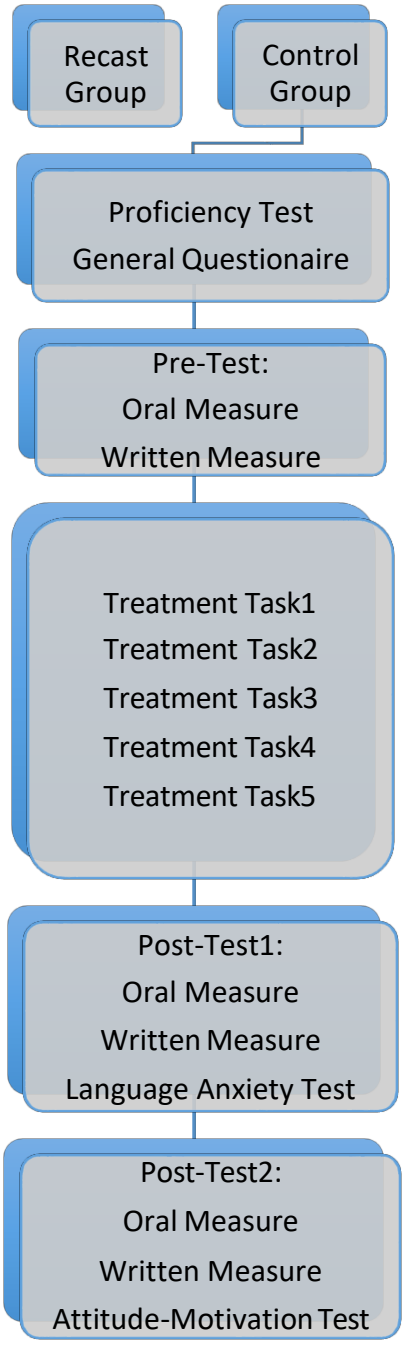

Figure 5. 1 Design of the main study

5.5 Participants

40 participants took part in this study and formed two main groups: a recasts group and a control group. This included 12 females and 8 males in the recasts group and 13 females and 7 males in the control group. Their age range was 29-43. Participants were Arab adults learning English as an L2. They were of a lower intermediate level in English. All of them were enrolled in English language classes at various colleges or institutions in the city of Newcastle for approximately three days a week. Their mean length of residence in the UK was 4 years at the time of the study. Participants reported a minimal use of English outside formal settings. See table 5.2 below for participants' demographic information:

Table 5. 2 Demographic characteristics of participants in the study

	Recast Group	Control Group
Gender		
Male	N=8	N=7
Female	N=12	N=13
Mean age	35	39
Ethnicity	Arabs	Arabs
L1	Arabic	Arabic
English proficiency	Lower-intermediate	Lower-intermediate
Mean age of onset	12	12
Mean years of exposure to English	6	6
Mean length of residence in the UK	4	5

Procedures for sampling and recruiting participants were as follows: The researcher first advertised for the study among those she personally knows as suitable for the research (Arab L2 learners, Low/intermediate level, studying English at colleges, etc.). Those participants expressed their willingness to participate as there will be ‘’beneficial practice’’ in one-to-one interaction compared to what they generally get at college where ‘‘they are not always focused on individually’’. The researcher explained to participants the criteria for inclusion, and then, participants suggested more participants who share these characteristics (their colleagues at

college). The researcher contacted potential participants individually and after the initial meeting with them, she recruited those who met the inclusion criteria. Participants were assigned to two groups and took part in the study. The researcher could have contacted colleges and institutions for recruiting participants, but that would have taken more time and much work, a thing the researcher had experienced in earlier attempts, whereas contacting participants in person had saved the researcher time and effort.

The sample size was small in the present study, however, it was balanced with the same number of participants in each group (20). The small sample size was due to the nature of the interaction (one-to-one) and the amount of time needed to be spent with each participant individually to collect the relevant data. This involved dyadic interaction sessions, individual testing on three occasions in addition to the questionnaires administration and heart rate measuring that needed to be done individually for each participant. Individual testing was due to two main reasons: some tests could only be done individually (oral tests, and heart rate measurement for instance). Second, other tests that could have been done collectively by combining more than one participant were not practical as each participant had a different schedule and it was so difficult to try to combine more than one participant at any point. Moreover, time limitations on conducting a PhD thesis had restricted the researcher from recruiting a larger number of participants. This is why a larger sample size would not have been possible logistically. It was already quite difficult to tailor the study based on the learners' and the researcher's individual schedules and to complete all the tests and tasks. Informed consent was obtained from all participants. Furthermore, the sample size met the criteria of running the statistical tests needed for the data analysis in the present study. The present study ensured homogeneity of the whole sample in relation to age, English proficiency level and the linguistic background as these were not variables in the present study.

5.6 The Target Structure

The structure under investigation in the present study is the English past tense: regular and irregular forms. There is a number of reasons behind the choice of this linguistic target. First, participants in the study are at low-intermediate proficiency level in English. Therefore, they are expected at this stage to possess an explicit knowledge of English past tense (Ellis *et al.*, 2006). Nevertheless, they are expected to make errors in its use, especially in the context of communicative activities where focusing on both the content of the task in hand and the grammatical form maximizes the processing loads on learners. Pre-test scores were used to

make sure that learners have already acquired/partially acquired the target forms before running the treatment sessions (Ellis *et al.*, 2006). It is important to note that the aim of the current study is not to investigate the effects of recasts in helping learners acquire a completely new structure, but rather to aid them to gain a greater control over an already acquired structure (Ellis *et al.*, 2006; Han, 2002).

Second, English past tense has a binary nature with regular and irregular forms. The regular/rule-based form implies applying the rule of adding *ed*- to the stem verb to form the past tense. This rule is introduced in all English grammar books. On the other hand, there is no specific rule for forming irregular past tense as it is item-based/ exemplar-based where each item is different from the other (Yang and Lyster, 2010). Such binary nature helped the researcher compare the differential effects of recasts on two structures which were expected to pose different levels of difficulty on learners and involve them in different levels of processing (Skehan, 1998; Pinker and Ullman, 2002). Recasts have been shown to have differential effects on the acquisition of regular vs. irregular past tense forms. They often had beneficial effects on the acquisition of the latter, whereas other CF techniques proved to be more effective in the acquisition of the former (Yang and Lyster, 2010; Martakush, 2011; Ellis *et al.*, 2006; Ellis 2007).

For a better understanding of the differential effects of CF in relation to regular vs. irregular past tense, Skehan's (1998) model of a 'dual-mode system' provides an explanation. According to this model, during 'online processing', the rule-based system (the regular past tense *ed*) imposes difficulties on the learner who is required to compute, rely on the 'procedural system' (Pinker and Ullman, 2002), and apply the rule in order to access the regular form. As such, an arguably implicit form of CF, recasts, does not help learners retrieve and apply the rule in their production. On the other hand, the exemplar-based irregular past tense forms are relatively easier to access and learners can rely on the 'declarative memory' to retrieve them. They do not overload the learner with the task of computing and applying the rule, as there is no rule. Therefore, these irregular forms can be easily retrieved as soon as the learner hears them in the teacher's recasts.

The third reason behind the choice of past tense as a target for this study is that most research on CF and the acquisition of English past tense has investigated only one part of the structure at a time; either the regular past alone (Ellis *et al.*, 2006) or the irregular past alone (Sakai, 2011). Even the few studies which looked at both forms (Yang and Lyster, 2010; Martakush, 2011), they did not investigate them in relation to individual difference factors, anxiety for instance.

5.7 Tools and Measures

5.7.1 Oxford Quick Placement Test (OQPT)

In order to measures learners' level of English and hence, their suitability for the current research, a proficiency test was administered to all participants. Developed by Oxford University Press in cooperation with Cambridge ESOL, the Oxford Quick Placement Test (henceforth OQPT) is a reliable measure of English language proficiency which can be administered quickly and easily (Geranpayeh, 2003) to help teachers and administrators place students/learners of English at the right level. The test has two versions: a computer-based (CB) version and a pen and paper (P&P) version. The current study made use of the pen and paper version for easier access and administration. The test is flexible and suitable for students of all ages and levels, and it is aimed at testing different language areas, including grammar, which makes it suitable for the purpose of the present study. The (P&P) version takes 30 minutes to administer. It consists of two parts with multiple choice format. Part 1 (Questions 1-40) is taken by all candidates, which makes it suitable for all levels, whereas, the second part (Questions 41-60) is taken only by candidates with higher abilities, i.e., who score more than 35 out of 40 in the first part. Answers can be written directly on the answer sheet and marked easily using straightforward criteria and scores can be linked to the ALTE and council of Europe levels. (See table 5.3 below).

Test items of the OQPT had gone through Cambridge ESOL quality procedures where the reliability of the test had been checked following certain procedures. The test had been through 3 validation phases (see Beeston, 2000 and Geranpayeh, 2003 for more details). In 2003, the QPT had been validated in twenty countries by more than 6000 students (Geranpayeh, 2003).

Table 5. 3 Look-up table for paper and pen scores

AlTE level	Paper and pen test score		Council of Europe Level
	Part 1 score out of 40	**Part 1 & 2 score out of 60**	
0.1 beginner	0-9	0-10	
0.2 breakthrough	10-15	11-17	A1
1 elementary	16-23	18-29	A2
2 lower intermediate	24-30	30-39	B1
3 upper intermediate	31-40	40-47	B2
4 advanced		48-54	C1
5 very advanced		55-60	C2

5.7.2 Foreign Language Classroom Anxiety Scale (FLCAS)

The study made use of the commonly-cited foreign language classroom anxiety scale (FLCAS hereafter) developed by Horwitz *et al.* (1986). The scale measures the level of anxiety L2 learners experience in the language classroom. The tool consists of 33 questions rated on a 5 point Likert scale. It measures 3 components of language anxiety: communication apprehension, fear of negative evaluation and test anxiety. It has been frequently used in L2 empirical research as a specific measurement of a specific type of anxiety, peculiar to L2 learning experience (Aida, 1994; Elkhafaifi, 2005; Matsuda and Gobel, 2001, 2004; Salehi and Marefat, 2014; Alshahrani and Alshahrani, 2015). The scale consists of 33 items; some are positively worded, while others are negatively worded. Each item is rated on a five-point Likert scale starting from 1 to 5, where 1 represents a strongly agree response, and 5 represents a

strongly disagree response, and was validated and adapted/ adopted by most quantitative studies on foreign language anxiety.

The questionnaire was translated into learners' L1 (Arabic) and administered in Arabic. The translation was done by three native speakers of Arabic including the researcher, who were doing PhDs in Linguistics/Applied Linguistics at UK universities at the time of the study. The final adapted translation included items translated by the three translators.

Most studies that looked at the role of anxiety in L2 learning have used off-line measurements such as questionnaires. In an attempt to measure learners' anxiety level more accurately, the present study used data triangulation and employed a real-time measurement of learners' anxiety level through the use of heart rate monitors as a second source of data. Data triangulation is used as a means of validating the data by cross verifying the same information from two sources (heart rate and anxiety questionnaire) (Bogdan and Biklen, 2006).

5.7.3 Heart Rate Sensor (HRS)

Anxiety can have several manifestations such as blood pressure, perspiration and heart rate. In determining which manifestation to measure and which means to use, one should keep in mind these should not be intrusive. The context of the study is an educational one where learners had to complete communicative tasks with the researcher during the treatment period and were tested a couple of times on the use of the target structure. It was, therefore, very important to choose a method which did not impede the performance of the tasks. Heart rate can be measured by heart rate sensors which can be worn by participants and they are considered unobtrusive yet the data they yield are considered robust. On the other hand, other anxiety manifestations, blood pressure, for instance, is measured either by invasive means (needles) or by inaccurate method (inflatable cuffs) (Choi and Gutierrez-Osuna, 2009), both of which are not suitable for the current study.

The researcher used heart rate sensors to measure learners' heart rate during the treatment sessions and the testing sessions. It is a device attached to a strap which was worn by learners, touching their skins. A relevant application was downloaded into the researcher's smartphone which allowed the pairing between the device and the phone. It constantly sent learners' data (their heart rate) wirelessly to the researcher's phone. At the end of the session, the session was saved to the phone memory for further analysis.

5.7.4 The Attitude/Motivation Test Battery (AMTB)

The scarcity of tests that measure non-linguistic aspects of L2 learning, such as the desire to learn an L2, attitude towards the L2 community in comparison with the wealth of tests developed to assess linguistic aspects of L2 learning, such as learners' ability in L2 skills (writing, reading, listening skills, etc.) motivated the development of the Attitude/Motivation Test Battery (AMTB, hereafter) (Gardner, 1985). The AMTB was developed based on extensive research on learning French as an L2. The items of the battery are about French language with sub-tests dedicated to different aspects of L2 learning. However, the test items have been adapted (either in their entirety or in a modified version) in research on other languages and have been translated into many languages to meet the aim of research.

Gardner's (1985) version of the AMTB includes

A) Eight sub-tests using Likert (1932) scale. Each item is represented with seven alternatives where students have to select the one which best describes their feelings:

1. Attitudes toward French Canadians
2. Interests in Foreign Languages
3. Attitudes toward European French people
4. Attitudes toward learning French
5. Integrative orientation
6. Instrumental orientation
7. French class anxiety
8. Parental encouragement

B) Three subtests in the form of a multiple-choice test. Each item is represented with a number of options for students to choose the one which best describes their feelings

9. Motivational Intensity
10. Desire to learn French
11. Orientation index

C) Eight sub-tests which using a semantic differential format (Osgood, Suci and Tannenbaum, 1957) where students have to rate two concepts: My English Teacher and My English Course on 25 semantic differential scales

12. French Teacher—Evaluation
13. French Teacher——Rapport

14. French teacher——Competence
15. French teacher——Inspiration
16. French course——Evaluation
17. French course—Difficulty
18. French course—Utility
19. French course—Interest.

The Adapted Version of the AMTB

For the current study, the researcher adapted items from the battery and mainly changed the focus to English as an L2. The items used were selected based on their relatedness to the context of the study with some modifications. As Gardner (1985: 01) puts it "Changing the setting, the language or the general socio-cultural milieu in which the language programme exists might necessitate major changes in the items to make them meaningful and relevant". This has also been emphasized by Dörnyei and Ushioda (2011) who argued that because of the great diversity of language-learning environments and because of the social sensitivity of attitude/motivation questionnaires, no battery can be used mechanically (i.e. without considerable adjustments) in contexts other than where it was developed (p. 265).

The researcher took the following steps in adapting the AMTB for the purpose of the current study:

1- Eliminated four out of the eight sub-tests.

a) Interest in Foreign Languages was eliminated because the context in the present study was a second language context, focusing on English in particular and the broader interest in learning foreign languages, in general, did not fall in the scope of the present study which has a specific focus, English.

b) Attitudes toward European English people: The original French version contained two distinct sub-tests: one about attitudes toward French Canadian, the other is about attitudes toward European French people. This did not fit the current study which only adapted a subtest about attitudes towards English people.

c) English Language Anxiety was eliminated because the study already employed two measures of learners' anxiety level (FLCA scale and heart rate monitors)

d) Parental Encouragement was eliminated because it did not fit the current study since all participants are 18+, whereas the original AMTB was designed for Canadians learning French in elementary and secondary school.

2- Eliminated one out of the three sub-tests using a multiple-choice format which is motivational intensity.

3- Eliminate the eight sub-tests that are assessed by means of a semantic differential format, which assess two concepts: My English Teacher and My English Course. This was done because these two concepts did not fall within the scope of the current study.

The final version of the AMTB which was adapted in the present study measured the following six subscales

1- Attitudes towards English people: This scale consists of ten positively worded statements about English people. A high score on this scale (maximum = 70) indicates a positive attitude toward English people. The term 'English People' could be understood in the context of the present study in different ways. It could be understood as any English national living in England where the present study was conducted or anywhere else, but whom participants in the current research have had the chance to encounter, deal with and thus form an opinion of and attitude towards. Or the stereotypical image participants in the present study have had about English nationals living in the English culture or elsewhere, but demonstrating the general English culture, such as images related to habits, lifestyles, etc.

   Gardner and Lambert initial AMTB tested the attitude towards French Canadians who comprise one of the two major communities in Canada (English Canadians and French Canadians). In addition, it also did investigate participants' attitude towards European French in general. As such, it was more comprehensive in nature than in the present study which in contrast did not attempt to examine participants' attitudes towards other English-speaking communities such as Australians or Americans for instance.

2- Attitudes towards learning English: This is a ten-item scale adapted from Randhawa and Korpan (1973). Five of the items are positively worded, while five express negative sentiments. A high score (maximum = 70) indicates a positive attitude toward learning English.

   For the purpose of the current study, the researcher deleted two items (one positively worded and one negatively worded). These two items were related to school experience, which did not fit in the present study. In this case, the maximum score changed to 56, which indicates a positive attitude toward learning English. As for the scoring of these items, the negatively worded items had reversed scores. For example, where for the positively worded items, the scores assigned to each response were:

Strongly Disagree (1)	Moderately Disagree (2)	Slightly Disagree (3)	Neutral (4)	Slightly Agree (5)	Moderately Agree (6)	Strongly Agree (7)

For the negatively worded items, the scores assigned to each response were reversed:

Strongly Disagree (7)	Moderately Disagree (6)	Slightly Disagree (5)	Neutral (4)	Slightly Agree (3)	Moderately Agree (2)	Strongly Agree (1)

3- Integrative orientation: The four items in this scale emphasize the importance of learning English in order to permit social interaction with English people or others who speak English. A high score on this scale (maximum = 28) indicates that a learner endorses integrative reasons for studying English.
4- Instrumental orientation: learners are presented with four items which stress the pragmatic or utilitarian value of learning English. A high score (maximum = 28) indicates that the learner endorses instrumental reasons for learning English.
5- Desire to learn English: Ten multiple choice items (maximum score=30) are included in this scale with a high score expressing a strong desire to learn English.
   For the purpose of the current study, the researcher omitted four items, which reduced the total number to six with a (maximum score = 30).
6- Orientation index: This sub-test consisted of one item. Students are presented with four possible reasons for studying English, two of which stress its instrumental value and two its integrative value. The sub-test is scored dichotomously. Students selecting either instrumental reason are scored 1; those selecting either integrative reason are scored 2.

The researcher translated the instrument into learners' L1 (Arabic) and piloted the test on a small scale. Moreover, she measured the instrument reliability by testing the internal consistency of each scale and making the necessary changes. Items were presented to learners in a random order. As Gardener (1985) points out, "The amount of confidence which can be placed in the results of the Attitude/Motivation Test Battery or any attitude test is affected by the care taken in its administration, and it is recommended that the test not be administered during times which will unduly affect responses to the various scales" (p.5).

The administration of the test battery was untimed, giving participants enough time to complete all test items. However, having been translated into learners' native language, the test battery didn't impose too much load on the learners who were also still allowed to ask the researcher about the meaning of certain test items in case it was not clear to them. On her part, the researcher took good care to stay close to the meaning and not influence the learner's response by any means.

5.8 Treatment Sessions

The treatment consisted of five practice sessions covering a period of two weeks. The logic behind the inclusion of five sessions is that the treatment would not be too short to problematize any conclusion that could be drawn based on the results and neither too long to make it implausible and discouraging for learners to participate in the study. Every session lasted for 20-30 minutes. The total period of the treatment was two hours on average for each participant, which constitutes an average of 40 hours in each group. During these practice sessions, participants took part in a number of tasks designed to provide opportunities for the use of the past tense (regular and irregular forms), commit errors in its use, and receive recasts in the case of the recast group. These sessions were recorded and the data obtained from these sessions were transcribed and analyzed for the occurrence of past tense errors, recasts and uptake/repair. The types of activities performed in these sessions are discussed below.

5.8.1 Question-and-answer activity (Q & A)

This activity was adapted from Yang and Lyster (2010). Fifty questions and corresponding information for the answers were prepared to be performed in two practice sessions. Questions were distributed on cards kept with the researcher and were designed to elicit the use of the past tense (e.g. *Where did Mr. Anderson find his keys?*). Below each question, there was a corresponding adverbial clause or noun phrase *(e.g. in his office)*. On the cards kept with the learners, there were same corresponding noun/adverbial phrases for the researcher's questions, so that whenever learners were presented with a question by the researcher, they could just look at the information on their cards and use that information to answer the question (e.g. *Mr. Anderson found his keys in his office*). Learners were reminded that they had to provide a full answer to each question and were given a second chance to re-answer any question they had not fully answered in the first attempt.

5.8.2 Picture-cued narrative activity (PCNA)

This kind of activity has been quite common in SLA studies that looked at the effectiveness of CF on the acquisition of English past tense (Han, 2002; Ellis *et al*., 2006; Ellis, 2007; Yang and Lyster, 2010, Martakush, 2011). In this activity, each learner was presented with a picture depicting episodes of a well-known fairy tale (Cinderella). The story was meant to be familiar to learners in order not to overload them with too much new information. Each learner was given a couple of minutes to prepare for the narration. After that, they had to narrate the story.

Learners were reminded to use the past tense in their narration at the beginning of each turn in order to ensure their production of the past tense forms. Episodes were considered to elicit both regular and irregular past tense forms. While narrating the story, learners in the recast group who made errors in the use of past tense received recasts accordingly.

5.8.3 Themed oral production 1

In this session, learners were presented with a topic to talk about. The topic was about a good and a bad incident that each learner had experienced in the past, and what they had learned from it in terms of shaping their character as it was in the present. In this activity, learners were aided by a number of questions in the past tense as to what they might say and in order to provide an obligatory context for the use of the past tense. During these activities, learners asked the researcher about the meaning of some content words they did not know. However, if the question was about a verb, the researcher provided the base form of the verb and noted that to the learner. Such occurrences were so rare in the data and almost all questions revolved around the meaning of content words learners needed to know in order to incorporate them into their answers or narrations.

5.8.4 Themed oral production 2

In this activity, learners were asked to reflect on their first experience reading a book. This activity was semi-structured like the previous one in that there was a list of questions prepared to aid learners in the task, where the focus was on past tense episodes (e.g. *Why did you choose that particular book*). In the case of any incident of L1 use, which was not uncommon in the present study, participants were always prompted and reminded to use the target language.

5.9 Testing Instruments

5.9.1 Oral production measure: story-retelling

Learners' spontaneous use or implicit knowledge of the past tense was assessed by means of an oral production measure (Ellis, 2005; Erlam, 2006; Yang and Lyster, 2010). In this task, three different stories were used, one for each testing session, i.e., the pre-test, the immediate post-test and the delayed post-test. The three stories were composed of the same verbs (both regular and irregular) so that learners' progress in the use of the past tense could be traced for both the rule-based and the exemplar-based systems. This is essential for answering the second research question: Do recasts have an effect on L2 learners' acquisition of English linguistic

structures- the regular and irregular past tense- as measured in oral production? (See table 5.1 above).

The researcher read the story twice at each testing session. The first time, it was read at a normal speed, and the second time, it was read at a slightly increased speed. Learners were told that taking notes was allowed only in the form of single words or phrases to aid them in their narration (Khatib, 2012). However, in Khatib's (2012) study, students had to rewrite the story rather than re-narrate it orally. Learners were given only five minutes to prepare for their narrations, which restricted their ability to draw on their explicit knowledge of the grammatical structure (past tense) (Ellis, 2005). Care was taken not to include difficult content words or use complex grammar or include too much information in order to 'minimize the processing load on the learners' (Sheen, 2008, p. 852) so that they do not focus on the content instead of the form. However, they were told that they could ask about the meaning of content words if needed.

Participants' performance was individually audio recorded and transcribed orthographically. However, being aware that such kinds of tasks, i.e., storytelling give participants a chance to choose whatever constructs they want and that they may avoid the use of ones they are not comfortable with (Mackey and Gass, 2007), the past tense might be one of these, participants were reminded to be consistent in their use of tense in their narration and that they should use the simple past tense.

To control for the test-retest effect, as mentioned earlier, three different stories were used for each testing session. However, all of them employed the same test items (past tense verbs) as recommended by Mackey and Gass (2005) "When testing grammatical improvement following a treatment, one can keep the grammatical structure the same and change the lexical items". (p. 116).

5.9.2 Written production measure: paragraph-composing

Participants were given a set of tokens (verbs) in their infinitive forms, seven were regular, seven were irregular and were asked to compose three paragraphs (no more than 20 lines each) out of these tokens, one for each testing session while provided with three different topics to write about each time. Learners were allowed to ask about the meaning of the verbs they were not sure about. The verbs were randomly presented and their order was randomly changed each time. This kind of test was meant to test learners' use of the past tense in a productive way while they were given more time to reflect on their knowledge of the past tense.

To create an obligatory context for the use of past tense, participants were provided with transition words (then, after, before…) (Yang and Lyster, 2010). In addition, they were told that they should not use infinitives, participles or negation in their compositions and that the paragraphs should be written in the active voice only using the verbs given. However, they were allowed to use additional verbs if necessary provided that they use all the given verbs as well (Khatib, 2012). This was in order not to restrict them, but at the same time to ensure that all the required verbs were incorporated into their compositions

Instructions required the use of transition words (e.g., *after*, *before*, *finally)* and forbade the use of infinitives, participles, or negation; (Yang and Lyster, 2010).

5.10 Piloting

This section is dedicated to the pilot study the researcher did before carrying out the actual study. This small-scale study served to pilot study instruments, tools, and tests, variables, and constructs operationalization and to identify potential problems and solve them before running the actual study. Generally speaking, it confirmed that the type of activities used in the treatment session and the two testing measures were suitable for the level of learners. The questionnaires used were easy to administer and measures the constructs they were supposed to measure. However, a number of problems emerged and revision was made accordingly. The study included four participants. Following is an account of the problems recognized through piloting and the procedures taken to solve each one. The pilot study did not include a control group.

Problem 1

The first problem was related to the communicative tasks during the treatment sessions; the opportunity for generating past tense use. In the Q and A activity for example, in the pilot study, lots of answers provided were short answers without the mentioning of any verb. Below is an example taken from the pilot study:

R: How many hours did you sleep last night? (Seven hours)

L: Seven hours

The researcher needed to make it clear to learners in the main study that they should provide a complete answer which incorporates the adverbial clause, etc. written on their cards. In cases where learners in the actual study provided a short answer, they were given a second chance to fully answer the question.

Problem 2

In the themed oral production measure, there were no guiding questions in the pilot study. This left participants confused and did not create obligatory context for the use of the target structure. The researcher developed a list of aiding questions that participants in the main study could use to help them through the task. Below is an extract from the pilot study where a participant hesitated not knowing what to say.

L: I read a book when I was young…..

Problem 3

The third problem was related to the operationalization of recasts treatment sequence. In the pilot study, the researcher failed in some places to provide opportunities for uptake when she continued with the topic after she provided recasts. In the actual study, however, care was taken to ensure that learners were provided with uptake opportunities through the researcher's pause after her recasts.

Problem 4

The fourth problem concerned the written production measure administration. In the pilot study, learners' compositions did not have all the test verbs regardless of the clear instruction the researcher put to create obligatory contexts for the use of the past tense. In the main study, the researcher had to watch learners while writing and make sure they incorporated all the provided verbs in their compositions.

5.11 Ethical Considerations

Although research on human subjects, in general, implies ethical issues, the field of Applied Linguistics involves low 'ethical stakes' compared to other fields (Dörnyei, 2007; Johnson and Christensen, 2004). Ethical issues in research are complex by nature, and there is not a single consensus on how researchers should address them (Oliver, 2004; Baggini and Fosl, 2007). Having understood this, the researcher took several steps to ensure that the required ethical considerations are fully covered and considered in the context of the study. This was in accordance with the British Association for Applied Linguistics' Recommendations on Good Practice in Applied Linguistics (2006, 2016).

- Participants were asked to sign a consent form which confirms their willingness to participate in the study and they were told that participation is voluntary.
- Participants were briefed on what the study involves and what they were required to do (A copy of Participant Consent Form is found in Appendix 5a). However, they were not told what the linguistic focus of the study is in order not to raise their awareness and bias their performance (Dörnyei, 2007). This particular bit and more information

about the study were disclosed after all data were gathered. As Thomas (2009) recommended ‘avoid deceiving participants while at the same time protecting participants' capacity to respond without prejudice to the content of the study' (P. 494) and as was emphasized by BAAL (2016) ‘' in some research, there are compelling methodological reasons for informants not to be fully informed about the precise objectives of research. In such cases, one defensible option would be to withhold the specific objectives of the research without deliberately misleading or giving false information" (p. 5)

- Confidentiality and anonymity were guaranteed and participants were assured that all their data (the audio recordings, transcription, the questionnaire data, etc.) would be saved in a secure place accessed only by the researcher who will use pseudonymous names or ID numbers instead of the actual names in reporting the results in the thesis and any subsequent presentations (BAAL, 2006; 2016). This was also emphasized by Thomas (2009) “balance confidentiality with the need to present research results to the public in the fullest, most transparent, detail possible”.
- Participants were assured that the study in all its phases and procedures would pose no risk to their lives or endanger their safety by any means.
- Participants were provided with an information sheet containing the researcher's and the supervisors' contact details in case of any query or concern (whether it was at the time of the study or afterward).
- Most importantly, the concept of ‘’equal treatment’’ proposed by Gass (2015) was addressed in the current study. Participants in the control group who intentionally did not receive any kind of CF on their past tense errors were told at the end of the study what the case was like and they were offered to receive the treatment after the data were collected (Polio and Gass, 2007). This, however, would have entailed that participants perform the communicative tasks for a second time, which did not appeal to most participants taken time limitations into account.

5.12 Validity and Reliability

Validity and reliability are very important constructs in any piece of research. Although it is very difficult to ensure that a certain piece of research conforms to all validity and reliability criteria of the concerned research paradigm (quantitative vs. qualitative for instance), it is quite essential that attempts are made to maximize the validity and reliability at the different stages of the research undertaken.

5.12.1 Validity

The term validity in Applied Linguistics research refers to ‘’the correctness and appropriateness of the interpretations that a researcher makes of his/her study (Gass, 2015). Validity is a very important concept in research because invalid research is considered worthless (Cohen *et al.*, 2011). There are several types of validity that need to be considered in the context of any research in applied linguistics. Since the current research is quantitative, validity was improved through ‘’careful sampling, appropriate instrumentation and appropriate statistical treatments of the data’’ (Cohen *et al*., 2011: 179). In this section, I will refer to some of these types and what procedures the researcher took to maximize the validity at each stage of the present study in relation to internal validity and external validity

5.12.1.1 Internal validity

Internal validity concerns the extent to which the researcher thinks the dependent variables and independent variables are related. In other words, whether the variation observed in the dependent variables is caused by the changes in the independent variables. Threats to internal validity were eliminated by

- The use of the control group, which did not receive any kind of feedback on their past tense errors, so that the ‘’improvement’’ of the experimental group could be attributed to the intervention treatment.
- Testing: the test-re-test effect was minimized by designing tests with different content words, but similar degrees of difficulty. In a pre-test-post-test design, the pre-test may stimulate participants to respond in certain ways to the post-test. This is, however, a threat to the one-group design, not to the two-group design because both groups perform the post-test, and the difference between groups would not be caused by the effect of testing.
- Experimental mortality: In the current research, there were no incidents of subjects’ drop-outs.
- History: another threat to internal validity was minimized through ensuring that no unanticipated events happened when the experiment was going on which might affect the dependent variable. History is not a threat to the two-group design, like that of the present study (experimental vs. control) because if a history threat applies to both groups, then the effect is eliminated and any observed difference between the experimental group and the control group would not be attributed to any history incident.

- Maturation: concerns whether the changes in the dependent variable are caused by the effect of time (like fatigue, boredom for example). This is, however, a threat to the one group design, but not to the two-group design since maturation, if it occurs, will occur for both groups at the same rate.

5.12.1.2 External validity

External validity is concerned with generalizability of a study or the extent to which the findings of a certain study have wider implications and can be applicable to learners of other L2 in different contexts (Gass, 2015). Threats to external validity were eliminated by

- An adequate explanation of the independent variables in the study and providing detailed descriptions of the study in all its phases, which facilitates any future replication of the study.
- No more than one treatment was administered at the same time in order not to make it impossible to isolate the effect of the particular treatment under investigation.
- The researcher controlled for as many variables as possible to control for any interaction effect of external factors with the experimental treatments (Cohen *et al*., 2011).
- The time between the testing sessions (the pre-test, the immediate post-test, and the delayed post-test) was neither too long nor too short.
- The sample used in the present study was a homogeneous population, i.e. lower-intermediate proficiency level, which challenges the probability of generalizing the results to people of high or low proficiency level for instance.
- The pre-test could have been argued to have influenced the participants' performance and given them clues on how they were expected to perform.
- Test-re-test effect was eliminated through the use of different versions of the same test, keeping the target feature constant, while changing the content of the test. However, the practice effect might have influenced the results.

5.12.2 Reliability

Precautions and procedures were taken to maximize reliability in the current study

- By providing a clear definition and operationalization of the constructs under study, and providing a full account of the research design, data collection methods and instruments.
- In coding the interaction data, the interrater reliability of the coding was achieved by asking a second coder to independently code 30% of the interaction data for the

occurrence of past tense errors, recast moves and learners' responses. The interrater agreement achieved was 100%.

- All data collection instruments were piloted before the main study and solutions were found to the arising problems.
- A random sample of 20% of the oral data, taken from the three testing sessions was independently coded and scored by a second researcher. The interrater reliability (IRR) for the oral data came high at 96% using the simple method for calculating IRR, i.e. the percent agreement.
- A random selection of 15% of the written data was independently coded and scored by a second coder. Inter-coder reliability was 100%. The sample came equally from the pre-tests, post-tests and delayed post-tests.
- A second coder was consulted to code 30% of the transcripts. Inter-coder reliability (i.e. percentage agreement between the two coders) was %100.
- The present study used more than one source of data.
- In order to ensure that the three oral tests (the three stories) were comparable in terms of difficulty of vocabulary used, the researcher consulted a word frequency index (Academic word list), which ensured the three tests to be of approximate word difficulty.

5.13 Summary

The aim of this chapter was to give a detailed account of the methodology used in all the current research phases. A reminder of the study research questions was presented first. The researcher then discussed the research paradigm that the current study belongs to, in addition to the study design and procedures. Information about the sample targeted in the current study was given. This was followed by a discussion of the target structure under investigation. The researcher detailed all the study materials, tools and testing instruments she used to gather the required data so that any replication of the study can be facilitated. The ethical considerations that were considered in the context of the current research were explained. It was explained how the researcher took all the possible procedures to enhance the validity and reliability of the study whose data analyses, results and findings are presented and discussed in the next three chapters.

Chapter 6. Results of Uptake and Repair

6.1 Introduction

This chapter presents and discusses the results obtained from the error treatment sequence data from five treatment sessions in an attempt to answer the following research questions (which were listed in Chapter 5, section x):

RQ 1. Do recasts lead to learner uptake/ repair of past tense errors?

RQ 2. Do recasts have differential effects on learner uptake and/ repair of regular vs. irregular past tense errors?

RQ 3. Do partial vs. full recasts have differential effects on learner uptake and/ repair of past tense errors?

6.2 Data Analysis

6.2.1 Error treatment sequence

The present study made use of Lyster and Ranta's (1997) model of error treatment sequence which researchers have either adopted or adapted in a number of studies on corrective feedback and learners' uptake in different L2 learning contexts (e.g. Panova and Lyster, 2002, Sheen, 2006; Sheen, 2008). An error treatment sequence in the present study starts with a learner's utterance that contains an error in the use of English past tense. This erroneous utterance works as a trigger and is then followed by either the researcher's recast or not; if not, there is task continuation. The researcher's recast is followed by either the learner's immediate response to recast (i.e. uptake) or 'no uptake'. If there is an uptake following the researcher's recast, then the learner's original ill-formed utterance is either repaired incorporating the recast or still needs to be repaired. In other words, uptake could either result in the repair of the original error or involve different wording which does not remove the original error. 'No uptake' entails either a task continuation from the learner or no response at all. Uptake or no uptake are then followed by a task continuation move from the researcher or the learner. Figure 6.1 illustrates the sequence as operationalized in the current study:

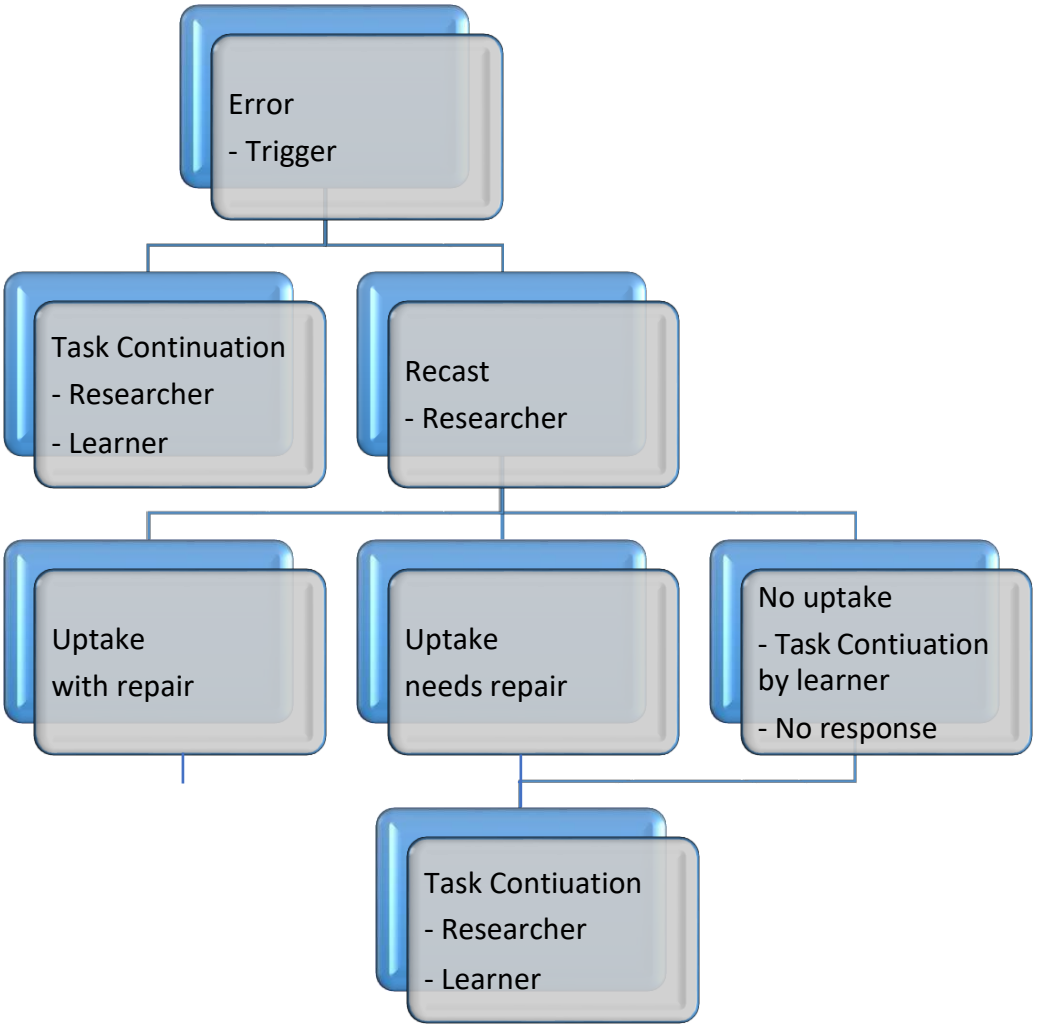

Figure 6. 1 Error treatment sequence for the experimental group in the present study

Error treatment sequences that occurred in the five treatment sessions in the present study were identified, transcribed and coded according to Lsyter and Ranta's model. The frequencies of the researcher's recast moves, the learners' uptake and repair moves in response to the researcher's recasts were then calculated. A second coder was consulted to code 30% of the transcripts. Inter-coder reliability (i.e. percentage agreement between the two coders) was 100%.

6.2.2 Errors

A learner's turn was coded as erroneous when it contained an error in the use of the past tense. Errors in the use of past tense cover the following: (a) a mis-inflected form (*foughted* instead of fought), (b) an overgeneralized form (*choosed* instead of chose) [1] and (3) a verb in its

[1] This shows that participants marked past tense, but their errors are like those of children acquiring their L1 (systematic although not the right system yet)

infinitive form (*kiss* instead of kissed). Learners' turns with errors that do not have to do with the use of English past tense were not identified or considered in the present study. Furthermore, learners' use of the L1, hesitations and false starts were not counted as errors or responded to as such by the researcher. In the first two treatment sessions where the number of tokens was controlled (50 questions in each session), learners' errors in the use of past tense forms which were not the targets in these two treatment sessions were also excluded from the analysis.

6.2.3 Recasts

Recasts in the present study were operationalized as the researcher's reformulation of all or part of the learners' erroneous utterances that contained past tense errors by providing the grammatical counterparts. Throughout these reformulations, the meaning of learners' original utterances was held constant during these communicative, meaning-oriented activities as advocated by Ellis and Sheen (2006); Long (1996; 2006) and Sheen (2004; 2006b; 2008). Recasts were declarative in nature and were either ''full'' or ''partial''. Partial recast involves recasts where the researcher's reformulation is shorter than the learner's erroneous utterance, whereas full recast involves recasts where the researcher's reformulation repeats the learner's whole utterance, but there may still be some changes, i.e. in this example the subject pronoun changes from 'I' to 'you'. Below are two examples taken from the current database:

(6.1)

I <u>trust</u> her (error)

T: You <u>trusted</u> her (full recast)

(6.2)

It <u>take</u> me 5 days to finish the interesting book (error),

T: It <u>took</u> (partial recast)

In general, the researcher tended to provide full recasts in response to short erroneous utterances, while relatively long erroneous utterances were provided with partial recasts. Descriptive statistics for both full and partial recasts are provided later in this chapter. (See Appendix 6a for more examples from the data set).

6.2.4 Uptake

The present study followed Lyster and Ranta's (1997) operationalization of uptake as the learner's response that immediately follows the researcher's recast. According to their model, various learner responses can be classified under the uptake category. Two categories of uptake

were identified: *repair* and *needs repair*. *Repair* refers to the learner's uptake which corrected/repaired the original error that triggered the researcher's recast regardless of any additional error made by the learner in the same uptake move (Sheen, 2006). *Needs repair* refers to any uptake of the learner that still needs correction and which does not incorporate the researcher's recast.

6.3 Results

6.3.1 Do recasts lead to learner uptake/repair of past tense errors?

The question whether recasts lead to learner uptake/repair in the present study was addressed by looking at the patterns of uptake that occurred in response to the researcher's recasts. This is presented in Table 6.1 below. Based on the model used in the present study, as shown in Figure 6.1, every learner response that followed the researcher's recast was coded based on whether or not it contained uptake. Every uptake move was further categorised based on whether it repaired the initial error or was still in need of repair. The number and percentage of recast moves that did not generate learner uptake are shown under the 'No uptake' category. The table below provides a breakdown by treatment session, as well as the totals for the five treatment sessions in the entire database. It also presents the frequency of past tense errors in each treatment session, the number of researcher recasts in response to these errors along with the percentage of these recasts in relation to the number of errors. It also shows the number of learners' turns with uptake and the number of learners' turns with repair in response to the researcher's recasts along the percentage of these uptake and repair moves in relation to the total number of recasts provided and the total number of errors committed. The totals for the entire database are illustrated by the graph in Figure 6.2

Table 6. 1 Frequency of learner error, recasts and learner uptake and repair

Treatment session	Total learner utterances	Learner error (% of total learner utterances)	Researcher Recasts (% of total errors)	Learner uptake (% of recasts)	Learner repair (% of recasts)
T1	500	164	156	152	97
		33%	95%	97%	62%
T2	500	139	130	124	84
		28%	94%	95%	65%
T3	212	103	92	84	59
		49%	89%	91%	64%
T4	301	117	104	101	73
		39%	89%	97%	70%
T5	209	106	99	88	57
		51%	93%	89%	58%
Total	1722	629	581	549	370
		37%	92%	94%	64%

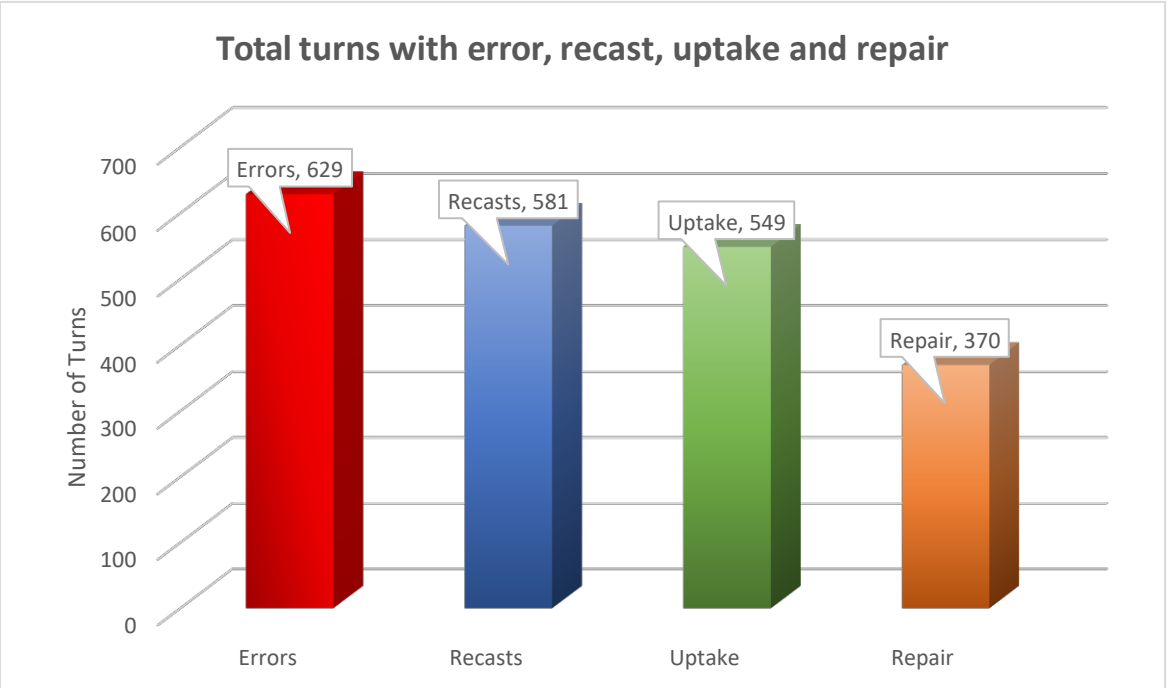

Figure 6. 2 Total turns over five sessions for error, recast, uptake and repair

One third of all the utterances produced by the learners contained an error in the use of past tense. Of these errors, 92% received recasts from the researcher, which means that only 8% of the time learners' errors were instead followed by either researcher or learner topic continuation moves. Of the 92% involving researcher recasts in response to learner errors, a high percentage of uptake in response to the recasts was found (94%). This means that only 6% of the time was the researcher recast followed by a task continuation move from the learner or the researcher. Moreover, recasts generated a high percentage of learner repair (64%).

6.3.2 Do recasts have differential effects on learner's uptake and repair of regular vs. irregular past tense errors?

Uptake with repair was coded and scored separately for the regular past tense (R) and the irregular past tense (IR). Recasts followed 92% of regular past tense errors across the five treatment sessions. The same percentage of (92%) of learners' errors in the use of irregular past tense were provided with recasts. With regards to uptake, recasts led to a very high rate of uptake for both R and IR past tense (93%, 96% respectively). However, repair rate differs between the two target structures, with learners repairing 55% of their regular past tense errors that the researcher recast, and 72% of their irregular past tense errors that she recast.

Table 6. 2 Recast moves, uptake and repair for regular vs. irregular past tense errors

Structure	Number of errors	Recast moves		Uptake		Repair	
		N	%	N	%	N	%
Regular Past Tense	301	278	92%	258	93%	152	55%
Irregular Past Tense	328	303	92%	291	96%	218	72%

In order to test the significance of the difference in uptake and repair rates following recasts of regular and irregular past tense errors, a paired sample t-test was conducted after checking the two assumptions of normality and homogeneity of variance. A box plot visual inspection of the 20 participants' uptake and repair rates of both regular and irregular past tense errors revealed only one outlier. Entry 10 achieved a 100% rate of repair following recasts. Therefore, its data was excluded from the analysis of the t-test. With the significance level set at .05 for

all the statistical tests conducted in the present study, the t-test showed no statistically significant differences between uptake rates following regular and irregular past tense errors:

$$t\ (18) = -1.295,\ p = .212\ (p > .05)$$

However, t-test revealed significant differences between the rate of repair of regular past tense errors and irregular past tense errors:

$$t\ (18) = -4.708,\ p = .000\ (p < .05)$$

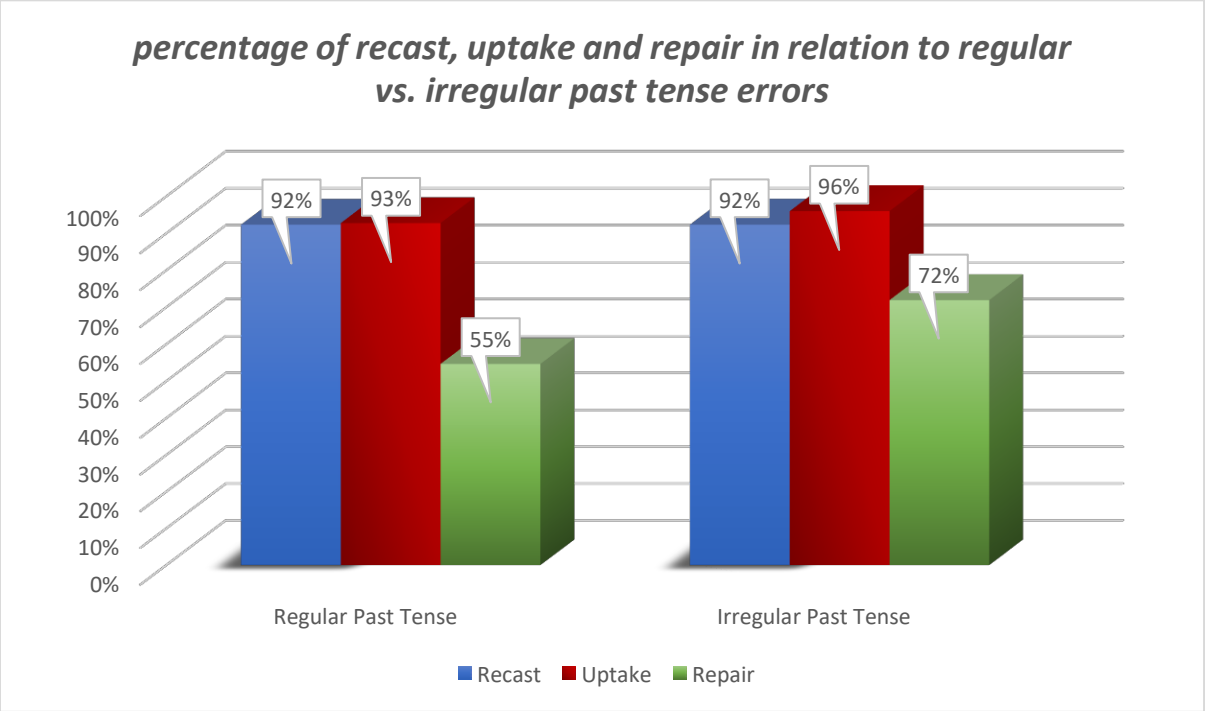

Figure 6. 3 percentage of recast, uptake and repair in relation to regular vs. irregular past tense errors

6.3.3 Do partial vs. full recasts have differential effects on learners' uptake/repair of past tense errors?

All the recast moves in the error treatment sequences were identified. The recasts were then coded, drawing on the two predetermined categories mentioned above, namely full vs. partial. The researcher used the Statistical Package for the Social Sciences (SPSS 22) to record the coding of each recast. This coding is based on the categories of "reduction" vs. "non-reduction" used in Sheen (2006). Reduction "involves recasts in which the reformulation is shorter than the learner's erroneous utterance", while non-reduction "involves recasts in which the reformulation repeats the learner's entire utterance" (p. 373). The present study, however, used partial recast and full recast.

A second researcher coded a sample, 62 % of the total recasts (N=160 for full recasts and N= 200 for partial recasts). The percentage of agreement scores was 100% for full recasts and 100% for partial recast. The frequencies of partial vs. full recasts and the percentage of uptake resulting in repair or needs repair were counted.

Table 6.3 presents the frequency of full vs. partial recasts in the database, the frequency of learner uptake and repair corresponding to each of the characteristics of recasts. The analysis yielded a total of 266 for full and 315 for partial recasts, respectively. Full recasts accounted for 46% of all recasts, and partial recasts for 54% of total recasts. A paired-sample t-test revealed statistically significant differences between the frequencies of both recast types:

$$t\ (19) = -2.367,\ p = .029\ (p < .05)$$

Regarding the rate of uptake following recasts, both full and partial recasts led to a very high degree of learner uptake (92% and 96%, respectively). An independent samples t-test was conducted and the two assumptions of t-test were checked. Data was normally distributed as shown by box plot visual inspections of the variables under discussion. No outliers were detected. Homogeneity of variance was checked by the results of Levene's Test for Equality of Variance ($p = .088$). T-test results revealed statistically significant differences between the rate of uptake following partial recasts and the rate of uptake following full recasts:

$$t\ (38) = -2.347,\ p = .024\ (p < .05)$$

As for the rate of repair following recasts, as shown in Table 6.3, half of the full recast moves generated learner repair (52%), whereas partial recasts generated a higher level of learner repair (74%). An independent samples t-test was then conducted. The researcher first checked the two assumptions of the t-test. Box plot visual inspections of the variables under discussion revealed one outlier only. Entry 10 repaired all the errors that received full recasts and achieved a 100% repair rate, and this is why its data were excluded from the analysis of the t-test. Homogeneity of variance was checked by the results of Levene's Test for Equality of Variance ($p = .390$). The t-test results revealed a statistically significant difference between the rate of repair following partial recasts and the rate of repair following full recasts:

$t\ (36) = -4.193,\ p = .000\ (p < .05)$.

Table 6. 3 Frequency of characteristics of recasts, uptake and repair rates

category	Recast type		Uptake		Repair	
	N	%	N	%	N	%
Full Recast	266	46%	246	92%	138	52%
Partial Recast	315	54%	303	96%	233	74%

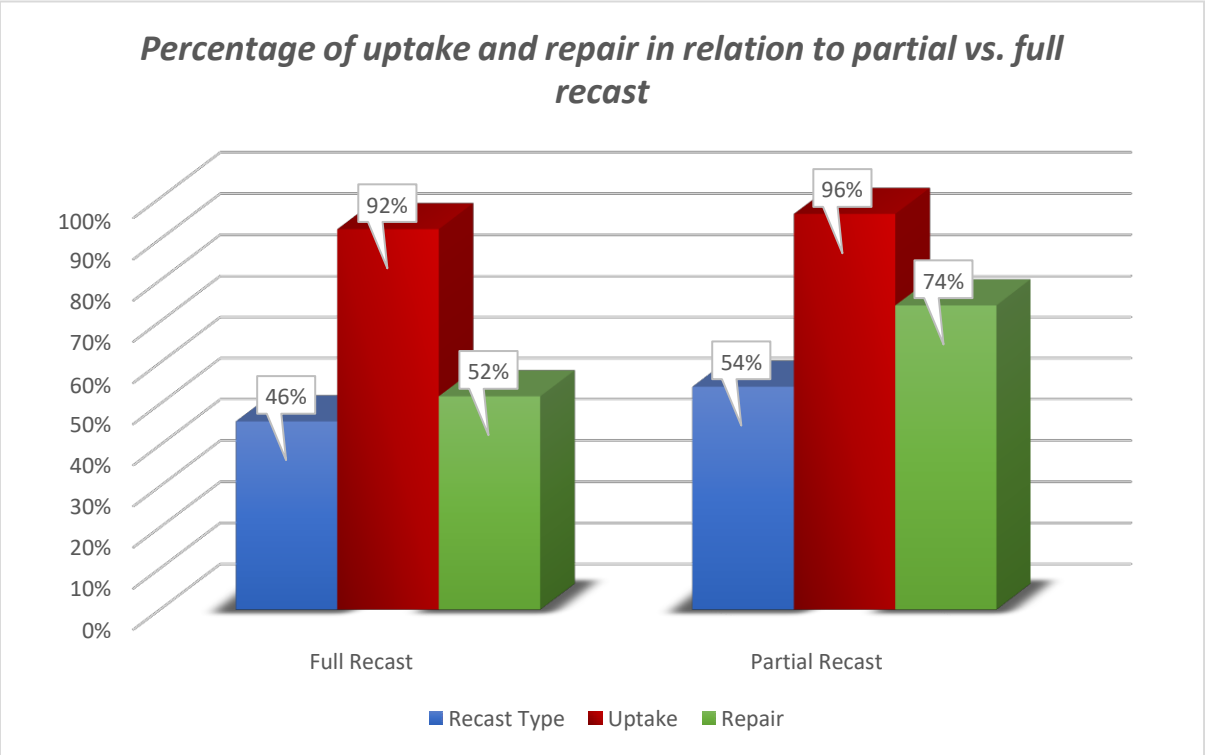

Figure 6. 4 Percentage of uptake and repair in relation to partial vs. full recast

6.4 Discussion

The results of the research questions about the effects of recasts in leading to learner uptake and repair and the mediating factors of these effects are discussed in this section:

RQ 1. Do recasts lead to learner uptake/ repair of past tense errors?

RQ 2. Do recasts have differential effects on learner uptake and/ repair of regular vs. irregular past tense errors?

RQ 3. Do partial vs. full recasts have differential effects on learner uptake and/ repair of past tense errors?

6.4.1 Recasts and learner uptake/repair

As noted in the methodology chapter, the first research question asked about the effectiveness of recasts in leading to learner uptake or repair of past tense errors. To investigate this question, learners in the recast group completed communicative activities on a one-to-one basis with the researcher where they had to use the past tense and the researcher then provided recasts on their errors in its use. The data obtained through these treatment sessions were analysed for the occurrence of errors, recast moves, learners' uptake and/repair drawing on Lyster and Ranta's (1997) model of error treatment sequence. The results revealed that the researcher provided recasts on 92% of learners' utterances that contained errors in the use of past tense. One could suggest that the proficiency level of learners in the present study (lower-intermediate) should have entailed fewer corrective feedback episodes. Here, we assume that the type of feedback provided in the present study (recasts) is believed to be suitable for learners' proficiency levels since it does not overload them with the task of figuring out the forms themselves, at least during this sort of exchange, some of which might be beyond their current level of L2 proficiency.

Interestingly, recasts in the present study led to a very high degree of learner uptake across the five treatment sessions (94%). Similarly, but to a lesser extent, slightly more than half of recast turns (64%) resulted in learner repair of their errors, which reflected a highly interactive learning context. These results are in line with Ellis *et al.*'s (2001) study which reported a high rate of uptake (72%) and a very high rate of repair (76%) in response to recasts in ESL intermediate and pre-intermediate communicative classrooms in New Zealand. On the other hand, results of the present study contrast with Lyster and Ranta's (1997) findings with younger learners in a Canadian French immersion classroom context where recasts led to a very low percentage of learner uptake (31%) and an even lower rate of learner repair (18%). Panova and Lyster (2002) similarly reported that in the adult ESL classroom context, recasts generated a low rate of uptake 40%, only 13% of which was successful, and Nassaji (2016) reported a low rate of uptake following recasts (49.6%) of which 45.3% involved repair in Chinese as a foreign language (CFL) context. The overall high rate of uptake and repair in the present study can be discussed in light of the role of context and instructional setting in the effectiveness of recasts and the importance of uptake and repair in L2 learning.

6.4.1.1 The effect of context and instructional setting

As discussed in the literature review chapter, research has shown that the success of recasts in generating learner uptake and repair is highly influenced by the context in which learning is

taking place. For example, in Canadian French immersion classroom contexts, a low rate of uptake and repair following recasts was reported compared to other CF techniques. Studies conducted in that context found that output-driving CF techniques like prompts for instance led to a higher level of uptake and repair than recasts which were argued to be implicit and ambiguous (Chaudron, 1977; Lyster and Ranta, 1997; Lyster, 1998a). Sheen (2004) provides evidence on the mediating factor of instructional setting where the study reported a high rate of repair following recasts in New Zealand ESL and Korean EFL contexts than in Canadian French immersion and Canadian ESL contexts. Moreover, in Lyster and Mori's (2006) study, recasts generated a higher rate of uptake in Japanese immersion context than in French immersion context. Meta-analysis studies of oral CF reported contextual influences on the effects of recasts in L2 learning. For example, Mackey and Goo (2007) reported larger effects for recasts in EFL contexts than ESL contexts, especially in the immediate post-tests.

The context of the present study can be argued to be was amenable to recasts. Sheen (2004) for example, argues that '' in laboratory settings where learners meet one-on-one with a NS researcher or native speaker, any NS utterance may serve as some sort of feedback''. (p. 268). In the present study, the dyadic nature of the interaction between the researcher and each individual learner was expected to have necessitated a response on the part of the learner. This helps highlight the corrective force of recasts, which in turn increased the rate of uptake in this study, especially since the researcher allowed enough time for learners to notice the gap in their production and initiate a response (Long, 2007; Oliver, 1995, 2000; Profozic, 2012).

Moreover, the very high rate of uptake in the present study could be due to the operationalization of the term ''uptake''. Remember, in this study, following Lyster and Ranta (1997), Panova and Lyster (2002), any learner move in response to the researcher's recasts was coded as uptake. This included simple acknowledgements such as yes, ahha, etc.

6.4.1.2 The importance of uptake in L2 learning

As discussed earlier, the presence of uptake cannot be taken as a definite index that learning is taking place, that is '' uptake following recasts is not necessarily evidence of hypothesis re-evaluation, noticing, and L2 learning'' (Ammar and Spada, 2006: 565). However, research that takes uptake as a yardstick to measure learning argues that uptake is an indication of a step learners have taken towards learning the second language (Lightbown, 1998, Loewen, 2005). Uptake has been argued to be facilitative for L2 learning based on, for example, the Noticing Hypothesis (Schmidt; 1990, 1995). Under this hypothesis, learner uptake entails learner's noticing of the target form in the interlocutor recast, which is argued to be crucial for learning

to take place. Swain's (1985; 1995) hypothesis on 'modified output' stresses the importance of learner uptake and repair in helping learners practice the use of target forms which they have used incorrectly before and to revise and test their hypotheses about the target language. These researchers believe these aspects of interaction have a facilitative role in L2 learning. Accordingly, the high rate of uptake reported in the present study can be taken as evidence of the facilitative role of recasts in L2 learning. However, it cannot be an indication that learners have acquired the target form incorporated in the researcher's recast. This is why the other research questions in the present study address the issue of the developmental effects of recasts by means of a quasi-experimental design with pre and post-tests.

6.4.2 Uptake/repair in relation to regular vs. irregular past tense

This research question investigated the relative effects of recasts on learner uptake/repair of regular vs. irregular past tense errors. Recast literature has shown that recast effectiveness, as measured by test scores, can depend considerably on the type of the target structure. However, little research has investigated how the degree of uptake and repair can be mediated by the type of the target structure. We have seen that the percentages of recasts provided in response to regular and irregular past tense errors were identical and high (92%) in the present study which has also found a very high degree of learner uptake following recasts of both regular and irregular past tense errors (93%, 96% respectively). However, learners' repair of their erroneous utterances following recasts significantly differs between the target structures with learners repairing their irregular past tens errors following recasts significantly more than their regular past tense errors (72%, 55% respectively). These results are discussed in light of the saliency of the target structure and the mediating role of the target structure.

6.4.2.1. Saliency of the target structure

One explanation of the higher rate of repair following recasts of irregular past tense errors compared to that of regular past tense errors could be due to the difference in the degree of saliency of these forms. SLA research has proposed that in general, regular verbs have less salient past tense forms involving the addition of the voiceless or voiced *-ed* suffix to the verb (Goldschneider and DeKeyser, 2001), which requires more attention, while irregular verbs have more salient past tense forms. These include unique and individual items which are argued to be stored in learners' memories as lexical items (Marcus *et al.,* 1992, Pinker, 1999). For example, when a learner of English says ''I go to the cinema yesterday'', and the interlocutor recasts this utterance by saying ''you went to the cinema yesterday'', the difference between 'go' and 'went' is more salient to the learner than 'helped' provided in response to 'help' for

instance. Lower saliency of the regular past tense forms compared to the irregular past tense forms has been discussed in the literature and is one of the difficulties ESL learners experience in learning the regular past tense (Goldschneider and Dekeyser, 2001; Ellis, 2005). For example, in Mackey's (2006) study on the relationship between feedback and noticing, regular past tense forms were the least noticeable structure compared to plurals and question forms.

Researchers offered an account for the difference between regular and irregular past tense by proposing the dual-mode system (Skehan, 1998) and the dual-mechanism model (Pinker, 1999) for processing English regular and irregular past tense forms. Based on these views, each of these structures involves learners in distinct processing: rule-application for the regular verbs and memory retrieval for irregular verbs (Skehan, 1998). While rule-application requires time and attention, retrieving lexical items from memory is less affected by processing time. Researchers argue that recasts are more effective for the item-based system than the rule-based system which benefits more from prompting CF types and opportunities for L2 production. In other words, because learners do not necessarily have a smooth access to the dense rule-based system during online communication for time and processing limitations, output providing CF techniques would be more beneficial in helping them retrieve and apply the rule of regular past tense in real online production. On the other hand, the irregular past tense forms can be retrieved from the exemplar-based system, where the forms are stored in the lexicon, with less effort and with no required computation during online communication, and this is why learners benefit from recasts incorporating these items.

In the present study, irregular past tense forms were more amenable to recasts which integrated target features which learners were able to notice (Yang and Lyster, 2010). On the other hand, although learners repaired their errors following recasts of regular past forms, the level of repair was significantly lower, suggesting that other forms of CF would be more effective in improving control over rule-based items as suggested by researchers.

6.4.2.2 The mediating role of the target structure

Research has investigated the mediating role of the target structure in the effectiveness of recasts as measured by test scores. However, little research has investigated how the effects of recasts in leading to learner uptake and /repair are mediated by the type of the linguistic structure the recast is targeting. The little that has been done in this area has shown that the rate of learner uptake/repair following recasts differs between target structures. For example, in Lyster's (1998a) study, recasts provided for grammatical and lexical errors were not likely to generate learner self-repair in contrast to recasts provided on phonological errors. Also,

Mackey *et al*. (2000) found that to a large extent, recasts which were provided for morphosyntactic errors did not lead to learner repair. These two studies, however, did not compare specific linguistic targets, but rather they compared types of errors as classified on broad basis (phonological, lexical, syntactic, etc.). The results of the present study lend support to this line of research by proposing that not all types of linguistic structures are equally amenable to recasts.

6.4.3 Uptake/repair in relation to partial/ full recast

The third research question aimed at investigating whether recast characteristics, in particular full vs. partial recasts, influence the rate of learner uptake and repair of past tense errors. With regards to the frequency of each recast characteristic in the current database, full recasts constituted 44% of the total number of recasts, while the percentage of partial recasts was slightly higher (56%). It has been mentioned earlier that the choice of either characteristic was driven by the length of the learners' erroneous utterances. If the utterance was long, the researcher tended to provide partial recasts, while if it was short, full recasts were provided. The results reveal that learners similarly demonstrated a very high rate of uptake following both full and partial recasts (92% and 96% respectively). Repair, on the other hand has been shown to differ between the two characteristics with partial recasts generating a higher rate of repair (74%) than full recast (52%). These results are discussed in light of the degree of recast explicitness.

6.4.3.1 Recast implicitness vs. explicitness

Researchers distinguish between 'explicitness' and 'saliency'. As discussed by Sheen (2006), 'explicitness' is a linguistic construct whose degree is mediated by the linguistic features of recasts (partial vs. full for example), whereas 'saliency' is a psycho-linguistic construct that can be measured by learners' noticing and perception of recasts. The relationship between these two constructs is not a straightforward one; explicitness might entail or increase saliency but this is not guaranteed since other learner-related factors (individual differences for instance) can impact how salient an ''explicit'' recast might look to learners.

Recasts were originally viewed as constituting an implicit type of feedback and have been operationalized in empirical studies as so. However, research has empirically shown that recasts vary considerably in how implicit/explicit they are, which in turn has a great impact on their effectiveness whether in relation to learners' successful uptake or subsequent use. Not disregarding the differences in recast characteristics and operationalisation across studies, the more explicit recasts are, the higher the rate of learners' responses. For example, learners in

Philp's (2003) study were more able to accurately notice shorter recasts than longer recasts. Moreover, in Loewen and Philp's (2006) study, stressed recasts involving only one change and which were accompanied with a rising intonation were predictive of successful uptake, and short recasts were also predictive of accuracy on test scores. Egi (2007) also found that long recasts which are significantly different from the original erroneous utterances were interpreted by learners as responses to the meaning of the utterance rather than corrective.

Results of Nassaji's (2007b) study revealed that recast type was related to the rate of learners' responses, with both intonationally and verbally enhanced recasts generating higher rates of accurate modified output compared to unenhanced recasts. In Nassaji (2009), explicit recasts (as in example 6.4) were more associated with short term and long term learning gains than were implicit recasts (as in example 6.3) (p. 430)

(6.3)

Student She saw young woman.

Teacher Oh, she saw the young woman.

Student Yeah.

Feedback type: Recast

Nature: Implicit

Characteristics: The feedback reformulates the error within its larger context with a confirmatory tone and without any additional clues to highlight the error.

(6.4)

Student A woman and a man was walking through the sidewalk.

Teacher A man and a woman WERE [added stress] walking?

Student Yeah, were walking together.

Feedback type: Recast

Nature: More explicit

Characteristics: The feedback reformulates the error and highlights it with added stress and rising intonation.

These studies provide evidence of the difficulties L2 learners face in perceiving the corrective force of recasts. However, they also suggest that certain features can be added to enhance recasts' explicitness and help learners interpret them as corrective, which is one of the ideas the present study sought to explore. The results of the present study concur with these studies and lend support to Lyster's (1998) argument that short, reduced recasts help learner compare their interlanguage form with the target form incorporated in the recast since they do not overload learners' working memory.

Although the present study did not employ any measure of noticing and perception, partial recasts in the present study could be argued to have increased the explicitness of recasts and hence, the saliency of the corrected forms they incorporated. It should be noted that although recasts can take different forms and their characteristics are varied, the present study was only concerned with partial vs. full recasts based on a distinction between implicit vs. explicit dichotomy of recasts. Recasts should not be viewed as either implicit or explicit CF type, but rather they should be on a continuum where some characteristics can render them more explicit and hence make their corrective force more salient to learners to respond to.

We can conclude that the results of the present study suggest that recasts implicitness/ explicitness can vary significantly depending on recasts characteristics, and that the more explicit recasts are, the more salient they become to learners, and consequently, the more beneficial they are likely to be for those learners.

6.5 Conclusion

The present study reported a very high degree of uptake (94%) following recasts, over half of which (64%) was successful uptake including learners' repair of their past tense errors. One of this study's aims was to investigate whether the rate of uptake and repair is dependent on the type of the target structure (regular vs. irregular past tense) and the characteristics of recasts (full vs. partial). The results demonstrated that recasts led to a very high rate of uptake following regular and irregular past tense errors, however, the rate of repair was greater for irregular past errors than the regular (72% vs. 55%). Recast characteristics were shown to be a mediating factor in recasts effectiveness in the present study with partial recasts leading to a higher rate of uptake and repair (96%, 74%) compared to the full recasts (92%, 52%). The next chapter will present the results of the oral and written production measures in order to discuss the developmental effects of recasts form the pre-tests to the post-tests.

Chapter 7. Oral and Written Production Results

7.1 Introduction

This chapter presents the results of oral and written production measures, the pre- and post-tests with the aim to address whether learners' proficiency with respect to past tense marking improved. The following research questions will be answered:

RQ 4 a) Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense - as measured in oral production?

b) Do recasts have differential effects on L2 learners' acquisition of regular vs. irregular past tense?sss

RQ 5 a) Do recasts have an effect on L2 learners' acquisition of English linguistic phenomena - the marking of regular and irregular past tense- as measured in written production?

b) Do recasts have differential effects on L2 learners' acquisition of regular vs. irregular past tense?

The researcher used IBM SPSS statistics 22 to perform all statistical analyses on the oral and the written data.

7.2 Oral Production Data

7.2.1 Data analysis

The following analyses were run to answer Research Question 4

7.2.1.1 Coding and scoring

The oral data (learners' narratives) during the three testing sessions (20 minutes each test) were audio-recorded and transcribed orthographically. The researcher conducted an obligatory occasion analysis and indicated the percentage of correct suppliance of each target form (Ellis, 2005). The total number of past tense tokens that occurred in the oral test varied considerably from one learner to another and from one testing session to another. Accordingly, within-group and between-groups comparisons were not possible if raw scores were considered. An accuracy ratio for each participant in the use of past tense for each testing session was therefore calculated. This was done by dividing the number of correct past tense uses by the total number of past tense uses (both correct and incorrect) in obligatory contexts. Total scores were obtained

by taking the average of percentage scores for each structure. This was done for the use of past tense in general and also for the use of regular and irregular past tense separately. Then, using the SPSS package, the ratios were used to compute group mean accuracy scores for each group and to run statistical analyses (Ammar and Spada, 2006; Ellis, 2005). A random sample of 20% of the oral data, taken from the three testing sessions, was coded by a second researcher. The inter-rater reliability for the oral data was 96%.

7.2.1.2 Procedures for data analysis

The researcher calculated the descriptive statistics for each target form (regular and irregular) separately. Group means and standard deviations at each time of testing were calculated for both the recast group and the control group.

In order to answer RQ4, a general linear model with repeated measures was conducted using the Bonferroni adjustments for multiple comparisons to examine the change that occurred in the treatment group and the control group after the pre-test (within group comparisons). The Bonferroni post-hoc tests were used because according to Field (2009, 2013), Bonferroni is more powerful than other post-hoc tests (Tukey for instance) when the number of comparisons is small, which is the case in the present study. Repeated measures ANOVAs were conducted for the regular past tense and for the irregular past tense separately. To examine the difference between the treatment group and the control group, Independent-samples t-tests were run to compare the two independent groups (recast vs. control) at each measure and for each structure separately.

In this study, results are considered statistically significant at the level of $p < .05$. The two assumptions of parametric tests: normal distribution of data and homogeneity of variance were checked before running ANOVA and t-test analyses. This was done through conducting visual inspection of box plots at each measure separately, and any outliers detected were excluded from the analyses. Effect sizes were calculated to measure the magnitude of any observed significant difference with respect to within-group comparisons and between-groups comparisons. Based on Norris and Ortega (2000, 2006), Cohen's *d* was calculated to measure the effect sizes of between-groups comparisons and effects sizes were interpreted according to Cohen's (1988) conventions and were considered small ($d = .2$), medium ($d = .5$) or large ($d = .8$)

7.2.2 Regular past tense results

7.2.2.1 Descriptive statistics

Table 7.1 and Figure 7.1 show the descriptive data for oral production of the regular past tense. On the pre-test the Recast group had a mean percentage score of 51.68 (SD=11.757), whilst the Control group had a mean of 59.00 (SD=13.445). An independent-samples t-test was run to determine if there were differences between the two groups at the time of pre-testing. Before running the t-test, box plot visual inspection was conducted for the data of the 40 participants in the recast group and the control group in order to check the assumption of normal distribution of data. Box plot for the oral pre-test detected two outliers. Entry 13 from the recast group and entry 32 from the control group performed at ceiling and each scored 100%. In order to meet the assumption of normal distribution of data, their data were excluded from the analysis before performing the t-test. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .433). An analysis of t-test showed no statistically significant differences between the two groups at the time of pre-testing:

t (36) = -1.785, p = .083 (p > .05)

As the Table (7.1) and the visual representation in Figure (7.1) indicate, on the immediate post-test, two outliers from both groups were detected by box plot and were excluded from the analysis. The RE group accuracy score increased with a mean percentage score of 71.8 (SD=14.82), and the CN group achieved a mean percentage score of 60.7 (SD=15.934), almost the same mean of the pre-test. On the delayed post-test, four outliers in both groups were detected by box-plot and were excluded from the analysis. The RE group maintained its improvement and obtained a mean percentage score of 88.47 (SD=8.828), while the CN group achieved a mean score of 62.00 (SD=9.676).

Table 7. 1 Results of regular past tense in oral production

	Pre-test		Immediate Post-test		Delayed Post-test	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*
Recast (N=19, 20, 19)	51.68	11.757	71.8	14.82	88.47	8.828
Control (N=19, 20, 17)	59.00	13.445	60.7	15.934	62.00	9.676

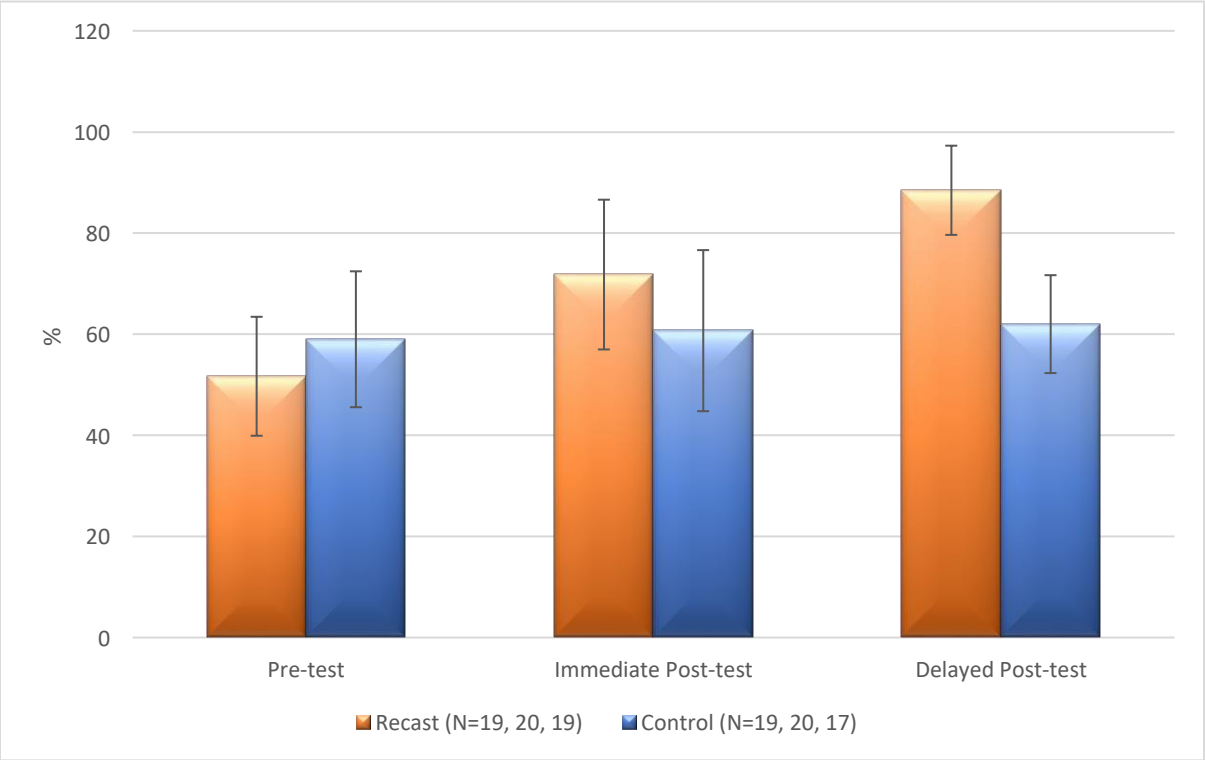

Figure 7. 1 Results for regular past tense for the recast and control groups

7.2.2.2 Inferential statistics

Table 7.2 and Figure 7.2 show the results of a Repeated measures ANOVA which was usedin order to examine the change over time in the two groups (within group comparison). The analysis revealed the following results: A repeated measure ANOVA determined that for the recast group, mean scores differed significantly between time points (F (2, 34) = 49.884, p = .000). Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that providing recasts elicited an increase in the mean scores from the pre-test to the immediate post-test (p = .000) with a large effect size (ES = 1.08), from the immediate post-test to the delayed post-test (p = .003) with a large effect size (ES = .9), and from the pre-test to the delayed post-test (p = .000) with a very large effect size (ES = 2.76).

In the Control group there was no evidence of statistically significant effect of time (F (2, 30) = .639, P = .535 > .05). No statistically significant difference was found between any of the post-tests compared with the pre-test, neither between the post-tests themselves. The effect sizes were very small: from pre-test to immediate post-test (ES =.07), from immediate post-test to delayed post-test (ES= .1) and from pre-test to delayed post-test (ES =.2).

Table 7. 2 Results of Repeated Measures ANOVA: within group differences

	Recast group		Control group	
	P	**ES**	**P**	**ES**
Pre-test-immediate post-test	**.000**	1.08	>.05	.07
Immediate post-test-delayed post-test	**.003**	.9	>.05	.1
Pre-test-delayed post-test	**.000**	2.76	>.05	.2

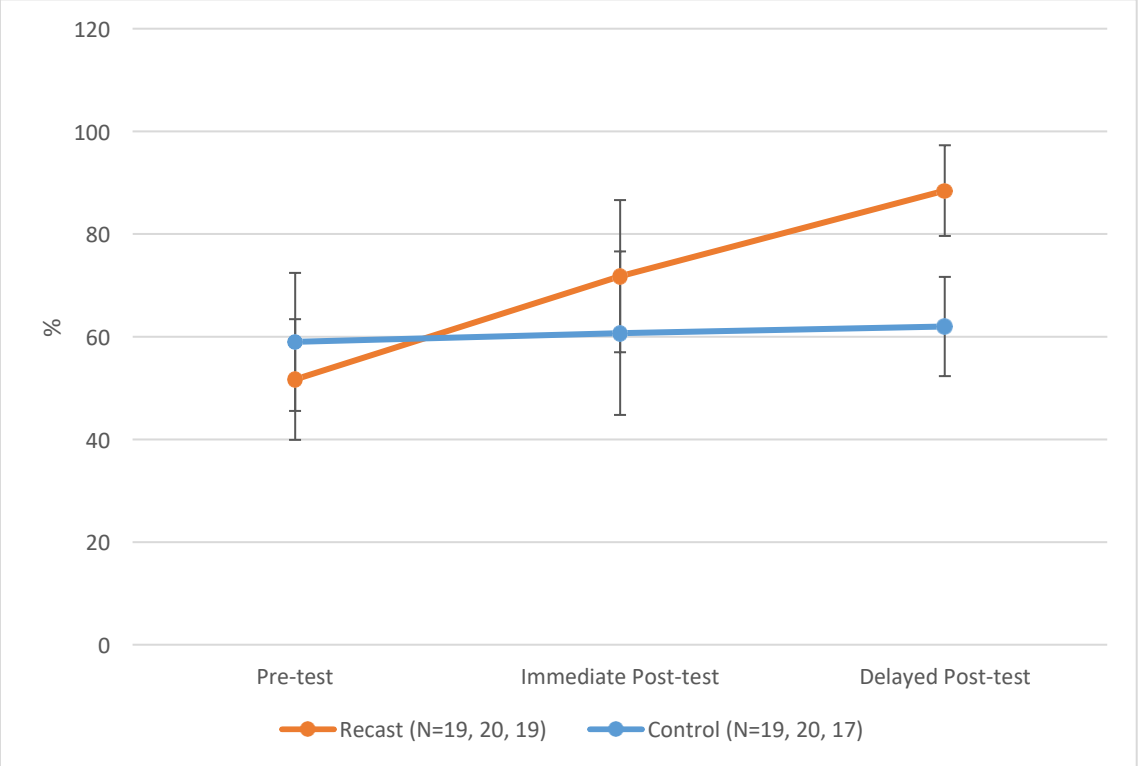

Figure 7. 2 Repeated measures ANOVA: performance of the two groups over time

Regarding the between-groups comparisons, at the time of the immediate post-test, an independent-samples t-test was run to determine if there were differences between the two groups. Box plot did not reveal any outlier at this measure and the data of the 40 participants were included in the analysis of t-test. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .784). An analysis of t-test showed a statistically significant difference among the two groups at the time of the immediate post-test:

$$t\ (38)= 2.281\ ,\ p = .028\ (p < .05)$$

At the time of the delayed post-test, an independent-samples t-test was run to determine if there were differences between the two groups. Before running the t-test, data from entry 15 in the

recast group and data from entries 29, 30, 34 in the control group were excluded from the analysis since they were detected as outliers according to box plot inspection. On the other hand, the second assumption, Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .917). An analysis of t-test showed a statistically significant difference among the two groups at the time of the delayed post-test:

$$t\ (34)= 8.585,\ p = .000\ (p < .05)$$

7.2.3 Irregular past tense results

7.2.3.1 Descriptive statistics

Table 7.3 and Figure 7.3 show the descriptive data for oral production of the irregular past tense. On the pre-test the Recast group had a mean percentage score of 51.05 (SD=13.197), whilst the Control group had a mean percentage score of 52.5 (SD=16.779). An independent-samples t-test was run to determine if there were differences between the two groups at the time of pre-testing. The normal distribution of data was achieved by deleting data from entry 13 in the recast group since this was the only outlier detected by boxplot at this measure. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .324). An analysis of t-test showed no statistically significant differences among the two groups at the time of pre-testing:

$$t\ (37)= -.298,\ \ p = .767\ (p > .05).$$

As indicated in Table (7.3) and Figure (7.3), on the immediate post-test, no outliers were detected, and the Recast group increased scores achieving a mean percentage score of 63.75 (SD=13.381), while the Control group performed almost similarly to the pre-test and obtained a mean percentage score of 51.00 (SD=14.995). On the delayed post-test, no outliers were detected and the Recast group accuracy score increased again with a mean percentage score of 70.4 (SD=12.845), and the Control group slightly increased scores obtaining a mean score of 58.00 (SD=14.026).

Table 7. 3 Irregular past tense scores in oral production

	Pre-test		Immediate Post-test		Delayed Post-test	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*
Recast (N=19, 20, 20)	51.05	13.197	63.75	13.381	70.4	12.845
Control (N=20, 20, 20)	52.5	16.779	51.00	14.995	58.00	14.026

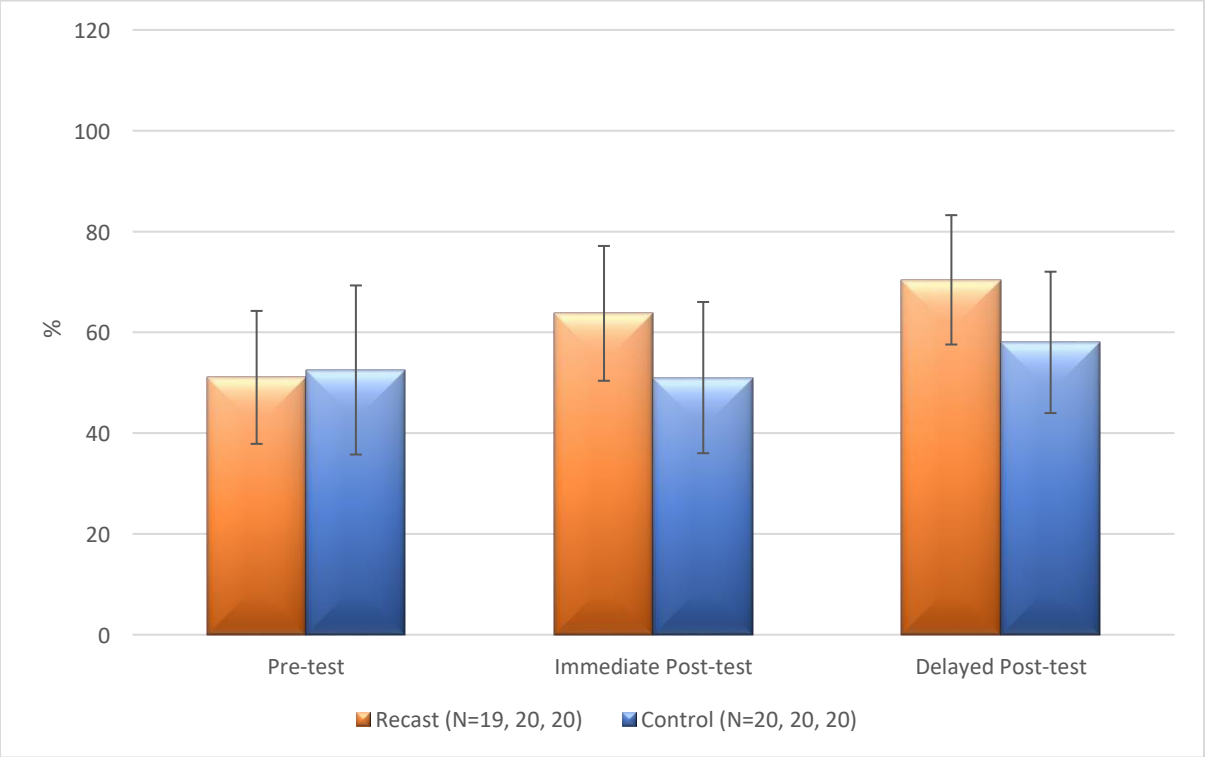

Figure 7. 3 Mean scores for the irregular past tense: the RE group and the CN group

7.2.3.2 Inferential statistics

Table 7.4 and Figure 7.4 show the results of a Repeated Measures ANOVA which was used in order to examine the change over time in the two groups (within group comparison). The analysis revealed the following results:

A repeated measure ANOVA determined that for the RE group, mean scores differed statistically significantly between time points (F (2, 36) = 12.277, p = .000). Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that providing recasts elicited an increase in the mean scores from the pre-test to the immediate post-test, which was

statistically significant (p = .04) with a medium effect size (ES = .6), and from the immediate post-test to the delayed post-test, which was not statistically significant (p = .185) with a medium effect size (ES = .5). However, providing recasts could lead to a statistically significant long term increase in the mean score from the pre-test to the delayed post-test (p = .000) with a very large effect size (ES = 1.16).

In the CN group there was no evidence of statistically significant effect of time (F (2, 38) = 1.178, P = .319 > .05). No statistically significant difference was found between any of the post-tests compared with the pre-test, neither between the post-tests themselves. The effect sizes were very small: from pre-test to immediate post-test (ES =.1), from immediate post-test to delayed post-test (ES= .3) and from pre-test to delayed post-test (ES = .2).

Table 7. 4 Results of Repeated measures ANOVA: within group differences

	RE group		**CN group**	
	P	**ES**	**P**	**ES**
Pre-test-immediate post-test	**.04**	.6	>.05	.1
Immediate post-test-delayed post-test	>.05	.5	>.05	.3
Pre-test-delayed post-test	**.000**	1.16	>.05	.2

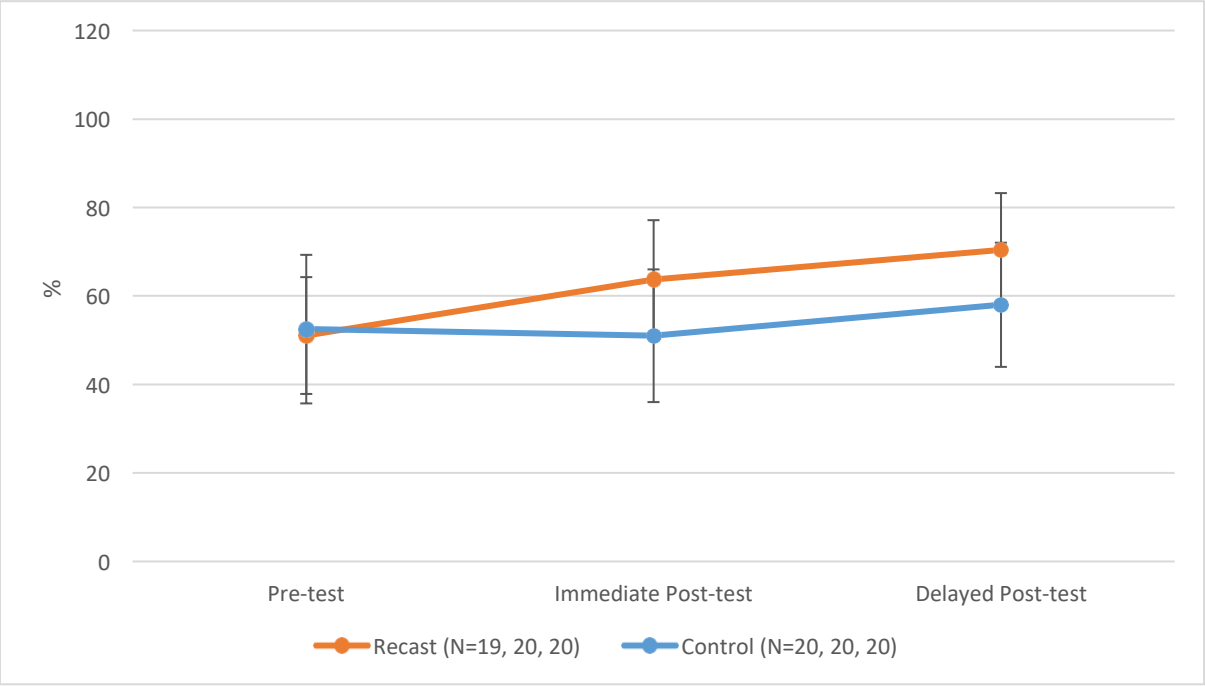

Figure 7. 4 Repeated measures ANOVA: performance of the two groups over time

Between-groups comparisons were conducted at the time of immediate post-test and delayed post-test. At the time of the immediate post-test, an independent-samples t-test was run to determine if there were differences between the two groups. No outliers was detected at this measure and consequently, no data was excluded from the analysis. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .685) a t-test was run to compare the means of the two groups. An analysis of t-test showed a statistically significant difference among the two groups at the time of the immediate post-test:

$$t\ (38)= 2.837,\ \ p = .007\ (p < .05).$$

At the time of the delayed post-test, an independent-samples t-test was run to determine if there were differences between the two groups. Data of the two groups were normally distributed at this measure and no outliers was detected. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .724). An analysis of t-test showed a statistically significant difference among the two groups at the time of the delayed post-test:

$$t\ (38)= 2.916,\ \ p = .006\ (p < .05).$$

7.3 Summary

A summary of the oral production results for Research Question 4, as displayed in Table 7.5 and Table 7.6, indicates that regarding the within group (between tests) results for the regular past tense target forms , only the participants in the RE group have significantly improved scores from the pre-test to the immediate post-test, from the immediate post-test to the delayed post-test and from the pre-test to the delayed post-test. Performance of the CN group, on the other hand, did not differ significantly between any testing sessions.

For the irregular past tense target forms, almost a similar pattern to the results of the regular past tense forms was found: only the RE group has significantly improved from the pre-test to immediate post-test and from the pre-test to delayed post-test. However, no statistically significant difference was found between post-tests themselves. In contrast, scores in the CN group did not differ significantly between any testing sessions.

Regarding the between group comparisons, there was not any statistically significant difference between the RE group and the CN group in the pre-test for both target structures. However, the RE group significantly outperformed the CN group in the use of both regular and irregular past tense structures in both post-tests, though, more significantly in the delayed posttest in the use of regular past tense.

Table 7. 5 Summary of results for RQ 4: Within group comparisons

Group	Regular past tense	Irregular past tense
Recast	**Immediate post-test > Pre-test (p = .000)** **Delayed post-test > Immediate post-test (p = .003)** **Delayed post-test > Pre-test (p = .000)**	**Immediate post-test > Pre-test (p = .04)** Delayed post-test = Immediate post-test (p > .05) **Delayed post-test > Pre-test (p = .000)**
Control	Immediate post-test = Pre-test (p > .05) Delayed post-test = Immediate post-test (p > .05) Delayed post-test = Pre-test (p > .05)	Immediate post-test = Pre-test (p > .05) Delayed post-test = Immediate post-test (p > .05) Delayed post-test = Pre-test (p > .05)

Table 7. 6 Summary of results for RQ 4: between group comparisons

	Pre-test	Immediate post-test	Delayed post-test
Regular past tense	Recast = Control (p > .05)	**Recast > Control (p = .028)**	**Recast > Control (p = .000)**
Irregular past tense	Recast = Control (p > .05)	**Recast > Control (p = .007)**	**Recast > Control (p = .006)**

7.4 Written Production Data

7.4.1 Data Analysis

The same procedures that were followed to analyse oral data using IBM SPSS statistics 22 were followed to analyse the written data. The following analyses were conducted to answer Research Question 5

7.4.1.1 Coding and scoring

The researcher initially determined the number of obligatory contexts for the use of past tense. As with the oral data analysis, obligatory contexts were defined as contexts in which only one

of the two forms of English past tense, namely regular or irregular was correct. Since participants were given instructions to use all of the given test items in their compositions, at least 14 contexts for past tense per learner were guaranteed each testing session. Participants' use of other past tense items in their compositions in contexts other than these were not included in the analysis. The reason was to control for the number of test items, and in this way within-group and between group comparisons were made easier. The researcher further analysed the forms the learner supplied for the correctness, i.e. whether the learner correctly supplied the regular vs. irregular form. For each correct use, participants were given one point. As such, for the use of regular and irregular past tense, the total possible score is 7 for each. Below is an example from a participant's composition in the immediate post-test:

(7.1)

After that I *walked* to the supermarket.

In the above example, the participant was given 1 point for the correct suppliance of the form walk*ed*. However, where the same participant in the same composition failed to provide the correct form, he was given a 0 point in the score calculation.

(7.2)

Then I *feeled* happy and relax.

This applied regardless of whether they provided the non-finite/bare form given in the test instructions (as in example 7.3 below) or whether they provided an incorrect past tense form (as in 7.2 above and 7.4 below). These two examples are taken from the pre-test:

(7.3)

Last weekend I *enjoy* the weather.

(7.4)

Then we *holded* it in our hands.

Spelling mistakes were tolerated where they did not affect the purpose of the study. In the following example, there is a missing *t.* It should be *chatted* instead

(7.5)

I *chated* with my friends.

The researcher calculated the percentage scores of all participants in both the Recast Group and the Control Group for the three testing sessions. A random selection of 15% of the written data was coded and scored by a second coder. Inter-coder reliability was 100%. The sample came equally from the pre-tests, post-tests and delayed post-tests following the process described by Sheen (2007).

7.4.1.2 Procedures for data analysis

To analyse the written data, the researcher followed the same steps that she took to analyse the oral data. The researcher calculated descriptive statistics for learners' performance on the written measure at each testing session and for each target structure separately. The same inferential statistics that were conducted to answer Research Question 5 for oral data were applied on written data.

7.4.2 Regular past tense results

7.4.2.1 Descriptive statistics

Table 7.7 and Figure 7.5 show the descriptive data for written production of the regular past tense. Box plots of written production measure of the two groups for the regular past tense at the three testing times revealed that data were normally distributed and no outliers were detected. On the pre-test the RE group and the CN group had the same mean percentage score of 62.7 (SD= 11.698). Since the two groups performed exactly the same at the time of the pre-test, no statistical analyses were needed for between groups comparisons. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance ($p = 1.000$).

As indicated in Table 7.7 and Figure 7.5, on the immediate post-test the RE group increased scores obtaining a mean percentage score of 75.65 (SD= 12.55), and the CN group achieved a mean percentage score of 64.8 (SD= 10.832). On the delayed post-test, the RE group accuracy score increased with a mean percentage score of 88.6 (SD=11.081), while the CN group obtained a mean score of 64.85 (SD=12.679).

Table 7. 7 Regular past tense in written production

	Pre-test		Immediate Post-test		Delayed Post-test	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*
Recast (N=20)	62.7	11.698	75.65	12.55	88.6	11.081
Control (N=20)	62.7	11.698	64.8	10.832	64.85	12.679

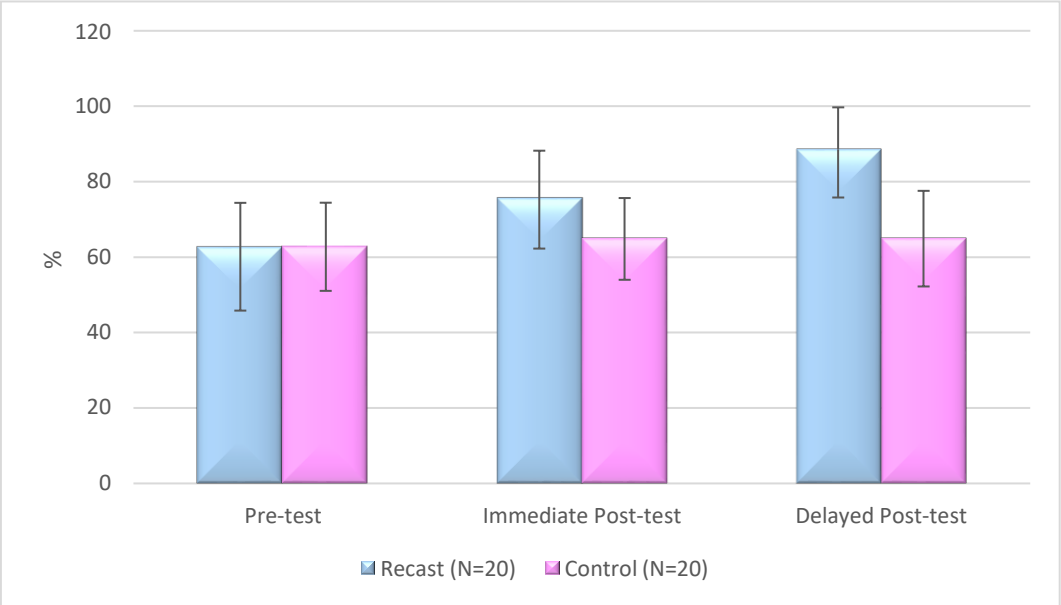

Figure 7. 5 Regular past tense: the RE group and the CN group

7.4.2.2 Inferential statistics

Table (7.8) and Figure (7.6) show the results of a Repeated measures ANOVA which was used in order to examine the change over time in the two groups (within group comparison). The analysis revealed the following results. A repeated measure ANOVA determined that for the RE group, mean scores differed statistically significantly between time points (F (2, 38) = 33.606, p = .000). Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that providing recasts elicited an increase in the mean scores from the pre-test to the immediate post-test (p = .003) with a large effect size (ES = .9), from the immediate post-test to the delayed post-test (p = .002) with a large effect size (ES = .9), but most significantly from the pre-test to the delayed post-test (p = .000) with a large effect size (ES = 1.9).

In the CN group there was no evidence of statistically significant effect of time (F (2, 38) = .454, P = .638 > .05). No statistically significant difference was found between any of the post-tests compared with the pre-test, neither between the post-tests themselves. The effect sizes are very small: from pre-test to immediate post-test (ES =.2), from immediate post-test to delayed post-test (ES= .004) and from pre-test to delayed post-test (ES = .2).

Table 7. 8 Results of Repeated measures ANOVA: within group differences

	RE group		CN group	
	P	**ES**	**P**	**ES**
Pre-test-immediate post-test	**.003**	.9	>.05	.2
Immediate post-test-delayed post-test	**.002**	.9	>.05	.004
Pre-test-delayed post-test	**.000**	1.9	>.05	.2

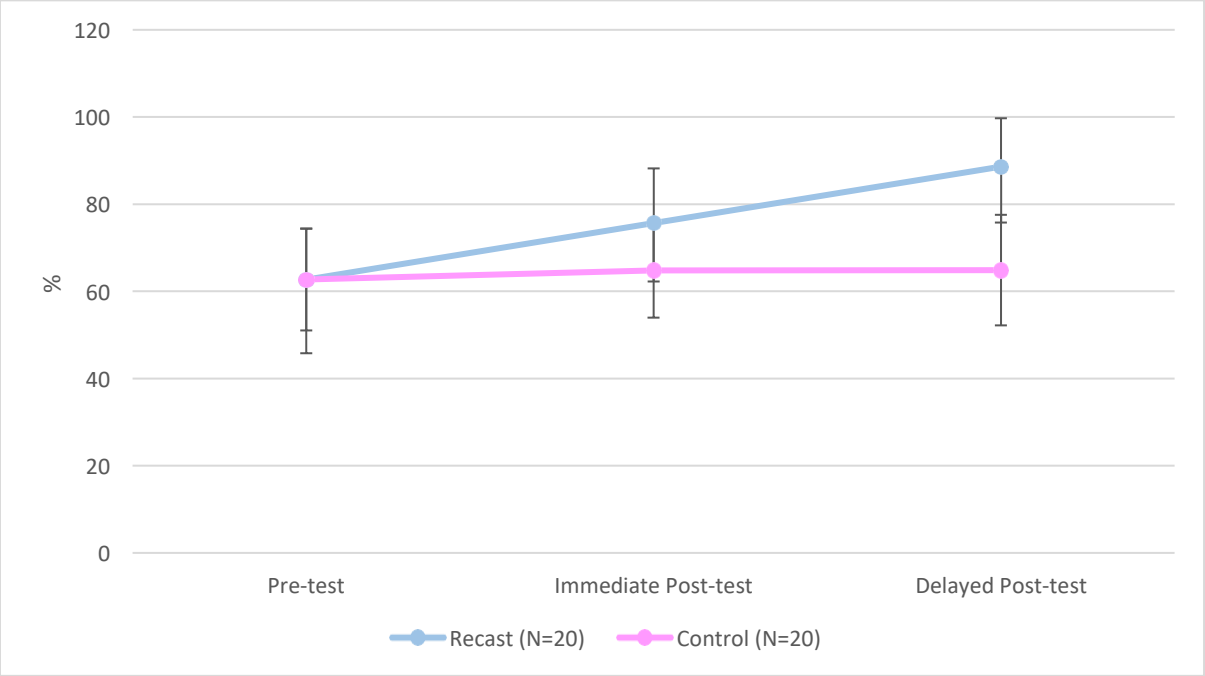

Figure 7. 6 Repeated measures ANOVA: performance of the two groups over time

Regarding the between-groups differences, at the time of the immediate post-test, an independent-samples t-test was run to determine if there were differences between the two groups. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .406). An analysis of t-test showed no statistically significant difference among the two groups at the time of the immediate post-test:

$$t\ (38) = 2.927,\ \ p = .006\ (p > 0.05)$$

At the time of the delayed post-test, an independent-samples t-test was run to determine if there were differences between the two groups at the time of pre-testing. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .439). An analysis of t-test showed a statistically significant differences among the two groups at the time of the delayed post-test with a very large effect size:

t (38) = 6.308 , p = .000 (p < 0.05), Cohen' d = 1.995 = 2

7.4.3 Irregular past tense results

7.4.3.1 Descriptive statistics

Table 7.9 and Figure 7.7 show the descriptive data for written production of the irregular past tense. Box plots of written production measure of the two groups for the irregular past tense revealed that data were normally distributed and no outliers were detected at the pre-test and the delayed post-test . However, box plots of the immediate post-test data detected 4 outliers from the recast group and one outlier in the control group. Therefore, data from entries 1, 4, 16, 18, 39 were excluded from the analyses of t-test and ANOVA. On the pre-test the RE group had a mean percentage score of 47.95 (SD=16.038), whilst the CN group had a mean percentage score of 45.8 (SD=17.57). An independent-samples t-test was run to determine if there were differences between the two groups at the time of pre-testing. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance (p = .849). An analysis of t-test showed no statistically significant difference among the two groups at the time of pre-testing:

t (38) = .404, p = .688 (p >.05)

As indicated in Table (7.9) and Figure (7.7), on the immediate post-test the RE group slightly increased performance and achieved a mean percentage score of 52.63 (SD=6.702), and the CN group obtained a mean percentage score of 50.37 (SD=12.668). On the delayed post-test the RE group accuracy score increased again achieving a mean percentage score of 65.45 (SD=08.501), and the CN group decreased obtaining a mean score of 43.65 (SD=14.805).

Table 7. 9 Irregular past tense scores in written production

	Pre-test		Immediate Post-test		Delayed Post-test	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*
Recast (N=20, 16, 20)	47.95	16.038	52.63	6.702	65.45	08.501
Control (N=20, 19, 20)	45.8	17.57	50.37	12.668	43.65	14.805

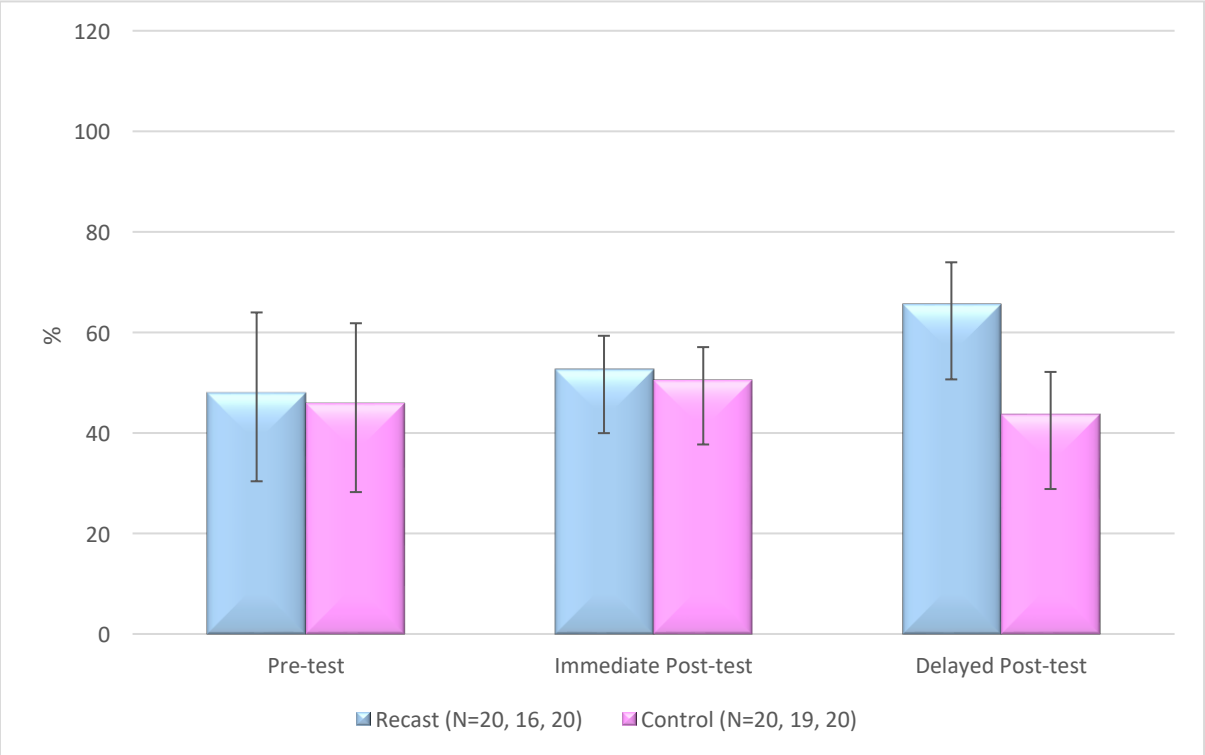

Figure 7. 7 Mean scores for the irregular past tense: the RE group and the CN group

7.4.3.2 Inferential statistics

Table 7.10 and Figure 7.8 show the results of a Repeated measures ANOVA which was used in order to examine the change over time in the two groups (within group comparison). The analysis revealed the following results:

A repeated measure ANOVA determined that for the RE group, mean scores differed statistically significantly between time points (F (2, 30) = 25.337, p = .000). Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed no statistically significant difference in the mean scores from the pre-test to the immediate post-test, (p = .070) with a medium effect size (ES = .6). However, providing recasts elicited an increase in the mean scores from the immediate post-test to the delayed post-test, which was statistically significant (p = .000) with a large effect size (ES = 1.4), and from the pre-test to the delayed post-test, which was also statistically significant (p = .000) with a large effect size (ES = 1.6).

In the control group, there was no evidence of an overall statistically significant effect of time (F (2, 36) = 5.243, P = 010). Specifically, there was no evidence of statistically significant difference between any of the post-tests compared with the pre-test. The effect sizes were medium and small respectively: from the pre-test to the immediate post-test (ES =.5) and from

the pre-test to the delayed post-test (ES = .2). However, a statistically significant difference was found between the post-tests themselves (p = .035) with a medium effect size (ES = .6).

Table 7. 10 Results of Repeated measures ANOVA: within group differences

	RE group		CN group	
	P	ES	P	ES
Pre-test-immediate post-test	.070	.6	>.05	.5
Immediate post-test-delayed post-test	.000	1.4	.035	.6
Pre-test-delayed post-test	.000	1.6	>.05	.2

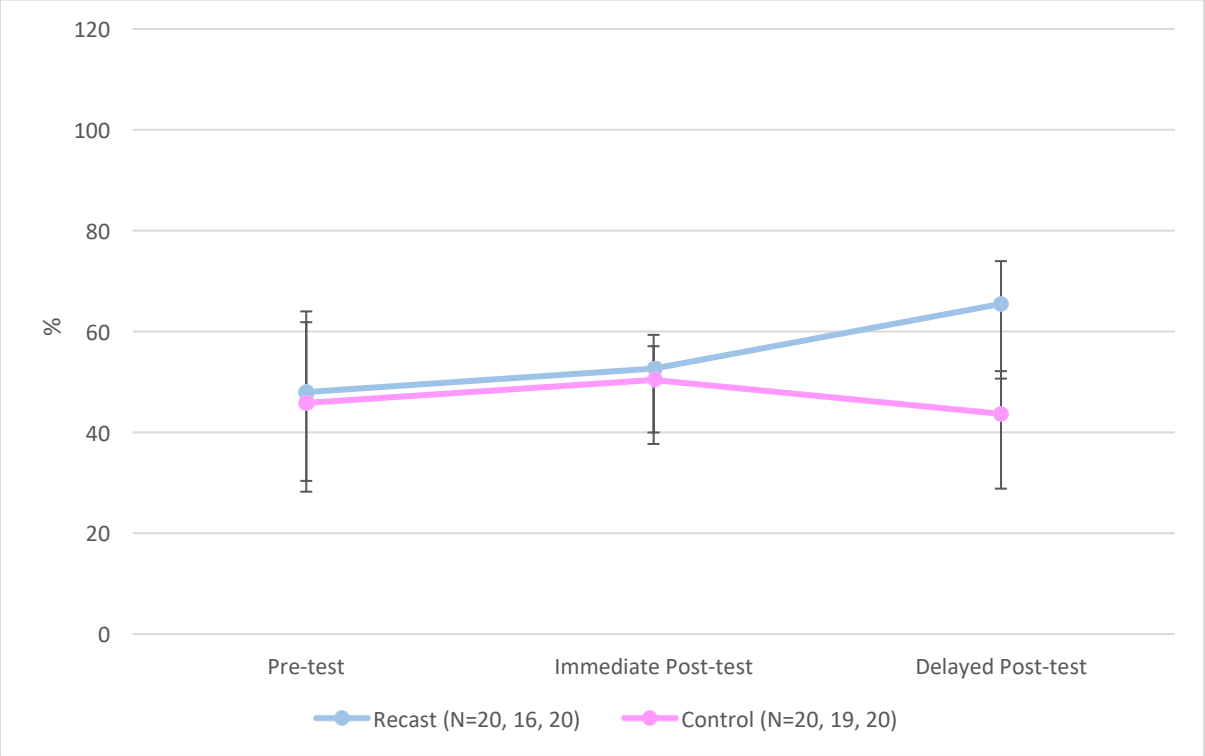

Figure 7. 8 Repeated measures ANOVA: performance of the two groups over time

Regarding the between-groups comparison, at the time of the immediate posttest, an independent-samples t-test was run to determine if there were differences between the two groups. Homogeneity of variance was violated at this measure, as assessed by Levene's Test for Equality of Variance (p = .009 < .05). Therefore, data from the column 'Equal Variances not assumed' were reported from the SPSS output table. An analysis of t-test showed no statistically significant differences among the two groups at the time of the immediate post-test:

$$t\ (28.214) = .673,\ \ p = .507\ (p > 0.05)$$

At the time of the delayed post-test, an independent-samples t-test was run to determine if there were differences between the two groups. Homogeneity of variance was met, as assessed by Levene's Test for Equality of Variance ($p = .175$). An analysis of t-test showed a statistically significant differences among the two groups at the time of the delayed post-test with a large effect size:

$$t\ (38) = 5.711\ ,\ p = .000\ (p < 0.05),\ \text{Cohen's}\ d = 1.8$$

7.5 Summary

A summary of the written production results for Research Question 5, as displayed in Table (7.11) and Table (7.12), indicates that regarding the within group (between tests) results for the regular past tense target structure, only participants in the RE group have significantly improved their scores from the pre-test to the immediate post-test, from the immediate post-test to the delayed post-test, but most significantly, from the pre-test to the delayed post-test. Performance of the CN group, on the other hand, did not differ significantly between any testing sessions. For the irregular past tense target structure, performance of the RE group did not differ from the pre-test to the immediate post-test. However, it significantly improved between post tests and from the pre-test to the delayed post-test. The CN group on the other hand, showed significant gains only between post-tests.

Regarding the between group comparisons, there was not any statistically significant difference between the RE group and the CN group in the pre-test or immediate post-test for both target structures. However, the RE group significantly outperformed the CN group in the use of both structures in the delayed post-test.

Table 7. 11 Summary of results for RQ 6: Within group comparisons

Group	Regular past tense	Irregular past tense
Recast	**Immediate post-test > Pre-test (p = .003)** **Delayed post-test > Immediate post-test (p = .002)** **Delayed post-test > Pre-test (p = .000)**	Immediate post-test = Pre-test (p > .05) **Delayed post-test > Immediate post-test (p = .000)** **Delayed post-test > Pre-test (p = .000)**
Control	Immediate post-test = Pre-test (p > .05) Delayed post-test = Immediate post-test (p > .05) Delayed post-test = Pre-test (p > .05)	Immediate post-test = Pre-test (p > .05) **Delayed post-test > Immediate post-test (p = .035)** Delayed post-test = Pre-test (p > .05)

Table 7. 12 Summary of results for RQ 5: between group comparisons

	Pre-test	**Immediate post-test**	**Delayed post-test**
Regular past tense	Recast = Control ($p > .05$)	Recast = Control ($p > .05$)	**Recast > Control ($p = .000$)**
Irregular past tense	Recast = Control ($p > .05$)	Recast = Control ($p > .05$)	**Recast > Control ($p = .000$)**

7.6 Discussion

This chapter has presented the results of oral and written production measures involving narrative tasks with the aim to provide answers to Research Questions 4 and 5 which asked about the effects of recasts on the acquisition of English past tense in its two types: the regular and irregular. The Recast group stood out by achieving statistically significant gains on almost all measures with respect to time of testing (immediate and delayed), mode of testing (oral and written) and target structure (regular and irregular).

In written production, as opposed to oral production, learners had more time to reflect on their explicit knowledge of the past tense and to use that knowledge to compose their narratives and edit them as well. As such, one would expect higher scores in written tests than in oral tests. In Lyster (2004: 425), the effect of prompts were slightly more evident in written tasks where students were more able to "draw on declarative rule-based representations on tasks where they have sufficient time to monitor their performance". This was the case in the present study, but for one of the two structures only, the regular past tense. This is shown by a comparison of the mean scores in the oral tests and written tests. For example, the mean score of the total sample on the oral pre-test for regular past tense was 57.5 %, while in written production, the mean was 62.7 %. A comparison of oral and written scores on the immediate and delayed post-tests for the regular past tense yields similar patterns.

Statistically significant results for the oral and written data revealed the following patterns regarding within group comparisons: Out of the six time comparisons conducted on the oral data, five were significant for the Recast Group (three for the regular and two for the irregular), while none was significant for the Control Group. Out of the six time comparisons conducted on the written data, five were significant for the Recast Group (three for the regular and two for the irregular), while only one was significant for the CN group (between the immediate

post-test and the delayed post-test for the irregular). These results indicate that the RE group performed similarly in the oral and written measures in attaining significant gains, whereas, the performance of the CN group was only minimally better (one comparison was significant) in the written production.

The between group comparisons revealed different patterns between oral and written tests. For the oral data, both groups performed similarly on the pre-test for both regular and irregular past forms; however, the RE group outperformed the CN in both post-tests for both form types. For the written data, the performance of the two groups was similar in the pre-test and immediate post-test for both target forms. However, the RE group manifested long term benefits and outperformed the CN group in the delayed post-test for both forms.

Overall, the results of both oral and written measures provide evidence of the facilitative role of recasts in assisting learners to gain more control over the use of past tense, although the effects of recasts were slightly significantly greater for the regular than the irregular past tense. In what follows, the major factors that are likely explanations for the effectiveness of recasts in the present study are discussed in light of theoretical and experimental research on the role of recasts in L2 learning.

7.6.1 The effect of recasts in L2 learning

The present study has reported beneficial effects of recasts as measured in oral and written tests. One of the possible explanations behind such finding is the input-providing nature of recasts. Recasts provide language learners with input that is connected to explicit learning, to declarative knowledge (Krashen, 1977; 1985). Researchers have argued that recasts take the load off learners by providing the target language forms so that learners notice the gap between their interlanguage and the target language forms while their focus is still on meaning, and noticing is the most important condition for learning to take place (Nicholas *et al.*, 2001; Provozic, 2012; Schmidt, 1990). The context in which the current study took place was designed to be amenable to recasts. The one-to-one interaction was a communicative situation which also helped learners notice and then use recasts.

Research on CF has reported beneficial effects for recasts in different contexts and on different target forms and structures. When recasts have been the focus of a study, they have been found to positively affect language learning. Studies of L2 English show that recasts help L2 learners maintain tense consistency in their production of the L2 (Han, 2002), develop their proficiency in question formation (Mackey and Philp, 1998) and improve their use past tense reference

(Doughty and Varela, 1998). The present study lends support to this line of research and argues in favour of the use of recasts in L2 learning and teaching.

On the other hand, research that compares recasts with other out-put providing CF techniques such as prompts, for instance, has reported superiority of prompts, over recasts (Ammar and Spada, 2006; Lyster, 2004; Yang and Lyster, 2010). However as I discussed in the literature review chapter, these studies compared recasts to an inherently different type of CF which was provided in various ways. This is why researchers who advocate the use of recasts have warned that the results of such studies need to be interpreted with caution (Goo and Mackey, 2013). The present study did not attempt to compare recasts with any other CF technique since the comparison will not be a straightforward one due to the unique nature of many CF techniques. It was instead an investigation only of the role of recasts in L2 learning.

Another explanation why recasts have been found effective in the present study could be the proficiency level of learners. Learners in the current study were all of lower-intermediate level (as measured by Oxford Quick Placement Test). As discussed earlier, at this level of L2 proficiency, learners will have been introduced to the rules for past tense formation and to irregular forms, yet they still lack control over its use with regards to both the rule-based (regular) and exemplar-based (irregular) systems. Consequently, an input-providing type of CF, recasts, is expected to aid them gain more control over their production. A counter argument would state that an output-providing type of feedback in this case would be more helpful in enhancing control over existing knowledge; here I argue that if an item is not already internalized in the learner's repertoire, they will not be able to produce it. Hence, recasts provide learners with input containing such items when they are at a developmental level allowing them to notice the options for forms and choose between alternatives. In the present study recasts were effective for this proficiency level of learners; they were 'ready' for the target structure, yet they had not mastered it. It was not yet automatic for them.

Studies that have examined the effects of recasts in relation to language proficiency have reported that recasts are beneficial for learners at a point of developmental readiness (Iwashita, 2003; Mackey and Philp, 1998; Han, 2002, Nicholas *et al*., 2001, Philp, 2003). The same concept of 'readiness' has been pointed out in the L1 acquisition literature when researchers have argued that children need to be developmentally ready for the acquisition of the linguistic feature the recast is targeting in order for the recast to be effective (Nelson *et al*., 1983).

7.6.2 The effect of measure: implicit vs. explicit knowledge

In the present study, recasts' effectiveness was evaluated using two different measures: oral and written production. The aim for including two types of measures was twofold: first, an oral production measure was meant to assess learners' implicit knowledge, while written measure was aimed at testing learners' explicit knowledge. In this case, the effectiveness of recasts can be assessed for both types of knowledge (Ellis *et al*., 2006). SLA researchers have been interested in differentiating types of linguistic knowledge and developing valid measures to measure each type on its own right. *Implicit knowledge* or *procedural* knowledge ''refers to knowledge that learners are only intuitively aware of and that is easily accessible through automatic processing'', whereas *explicit knowledge* or *declarative* knowledge ''consists of knowledge that learners are consciously aware of and that is typically only available through controlled processing'' (Ellis *et al.*, 2006: 340). Implicit knowledge reflects learners' unconscious and automatized knowledge about the target language. It can be accessed any time and is measured by tasks such as oral imitation, oral production and timed grammaticality judgements. Explicit knowledge is where learners consciously know certain rules about the target language and consciously apply these when there is sufficient time to do so. Explicit knowledge is measured by tasks such as untimed grammaticality judgments and written production Table (7.13) below summarizes and compares the main characteristics of each type of knowledge.

Table 7.13 Key characteristics of implicit and explicit knowledge (Ellis, 2005: 151)

Characteristics	Implicit knowledge	Explicit knowledge
Awareness	Intuitive awareness of linguistic norms	Conscious awareness of linguistic norms
Type of knowledge	Procedural knowledge of rules and fragments	Declarative knowledge of grammatical rules and fragments
Systematicity	Variable but systematic knowledge	Anomalous and inconsistent knowledge
Accessibility	Access to knowledge by means of automatic processing	Access to knowledge by means of controlled processing
Use of L2 knowledge	Access to knowledge during fluent performance	Access to knowledge during planning difficulty
Self-report	Nonverbalizable	Verbalizable
Learnability	Potentially only within critical period	Any age

In the CF literature, researchers have argued that the effect of CF is superficial, affecting only explicit knowledge, but not implicit knowledge. The present study, however, provides evidence through the oral narrative tasks that recasts result in implicit, automatized knowledge. That is, recasts were shown to be facilitative for implicit and explicit knowledge alike. A final comment is due. Regardless of how learning gains are measured, the present study shows that learners benefit from CF they received in the form of recasts. The study provided further evidence that L2 learning that involves a CF component, recasts in the present study, results in more learning gains than no CF.

7.6.3 Type of target structure/ regular vs. irregular past

The present study compared the differential effects of recasts on regular vs. irregular past tense. Although statistically, recast effects were slightly more significant for the regular past tense, they were also beneficial for the irregular past tense in both written and oral measures. This finding does not fall in line with Yang and Lyster's (2010) study which compared two types of CF, prompts and recasts, on the acquisition of regular vs. irregular past tense. In that study, prompts were more effective than recasts in increasing accuracy in the use of regular past tense forms, whereas, both prompts and recasts had similar positive effects on accuracy in the use of irregular past tense forms.

Researchers have argued that because the regular past tense forms are formed by adding *-ed* to the base verb, the process is less explicit than retrieving the irregular past tense forms from the

lexicon (Ellis, 2005; Yang and Lyster, 2010). Mackey's (2006) study on feedback and noticing found that regular past tense was among the least noticed structures. In her study, Mackey collected data on noticing through four measures (p. 413/414):

a- Learning journals filled out during class time
b- Oral stimulated recall protocols
c- Written (L1) responses to a focused question about the nature of the classroom activities and the goals of the teacher/host;
d- Written responses on (L2) questionnaires.

Thus, due to their implicit nature, one could argue that regular past tense formation would benefit more from a more explicit type of feedback, like prompts for instance in order to compensate for their implicit nature. Moreover, according to Skehan's (1998) model of a 'dual-mode system', the rule-based system (the regular past tense *ed*) is more difficult to retrieve, and it demands effort and computation on the part of learners during 'online processing'. So an explicit type of CF (prompts) could work better for learners and help them recall how regular past tense marking occurs. On the other hand, the exemplar-based system (the irregular past tense) does not overload learners with the task of computation and applying the rule since there is no rule. Consequently, the learner can retrieve the irregular past tense item simply by hearing the form in the teacher's recast.

However, in the present study, an arguably implicit type of feedback - recasts - was found to be beneficial for the regular past tense even more than the irregular although the difference was only slightly significant: short and long term benefits for the regular past tense on both the oral and written measures, while short and long term gains for the irregular past tense in the oral measure and only long term gains in the written measure. Here, I argue that the pragmatic and linguistic factors in the present study enhanced recast saliency. That is, recasts provided to learners on one-to-one basis in a laboratory setting are more salient than recasts provided in a classroom setting. Moreover, the fact that partial recasts were provided in the present study might have enhanced the noticeability of the regular past tense as reformulated in the researcher's recasts.

The literature provides examples of studies that have investigated the relative effects of feedback on target structures of a similar binary nature. Lyster (2004), for example, compared the effects of prompts vs. recasts on male vs. female gender assignment in French, and Ammar

and Spada (2006) compared prompts and recasts on the acquisition of English third-person possessive determines (his/her). In both studies, recasts were less effective than prompts.

7.6.4 Types of errors committed

Data from the present study reveals a number of tendencies learners showed in committing past tense errors. This is a pattern of acquisition L2 learners follow that is similar to the pattern L1 children exhibit. The first type was overgeneralization. The present study shows that learners at this stage of L2 proficiency are in the process of mastering the rule of regular past tense formation (adding *-ed*) and are aware of irregular forms which do not accept the rule and which need to be learned as item-based examples. However, at this stage, they have not been exposed to enough input to test their hypotheses against the linguistic input, which results in their overgeneralization of the *–ed* rule where there are instead irregular past tense forms as in example (7.6) below.

This can be discussed in light of the observation that L1 and L2 acquisition might follow the same route, though the rate of learning is arguably different, and ultimate attainment also differs. L1 acquisition ends in a full mastery of the language, while this is not the case of L2 acquisition. In L1 acquisition, the child goes through three stages child psychologists called 'U-shaped development' (Berko, 1958). In the first stage, the child uses just few past tense examples correctly with both regular and irregular verbs, but more commonly irregular. In the second stage, the child uses the regular form (e.g. play, played) and applies this to irregular verbs too where we can hear a child saying (daddy *goed* instead of went). This overgeneralized item resides in the child's linguistic repository for a while till the child hears the different correct irregular form in the input and starts testing hypothesis against that input (Marcus *et al*., 1992). In the last stage, the child abandons the wrong form and adopts the right one. In the present study, learners tended to overuse the regular past tense since it is the only rule of thumb they know about past tense formation as in these additional examples from the three testing sessions:

(7.6)

He *drived* his car

I *layed* in the garden

It *shined* like the sun

Learners were also inclined to over apply the regular past rule to an already conjugated irregular form. Learners produced items like *foughted* instead of *fought*. This is also a feature of the second stage of L1 acquisition where a child says (daddy *wented* as well as *goed*).

Another typical error committed by learners in the present study was the use of the bare form of the verb instead of V-*ed*:

(7.7)

Yesterday I *cook* for my family.

Hawkins (2001: 65) notes that some learners ‘’have difficulty in establishing the regular pattern (for past tense) at all’’. It is worth mentioning that learners made phonological errors with consonant clusters. However, it is beyond the scope of the current thesis to analyse or discuss these errors.

7.7 Conclusion

The Recast Group made significant short and long term gains on almost all oral and written measures and significantly outperformed the control group on half of the measures. The control group, on the other hand, made significant gains on one measure only. These results support findings from pervious laboratory studies and provide evidence of the facilitative role of recasts in L2 learning (Han, 2002; Mackey and Philp, 1998).

Given the nature of the present study design and its focus on both regular and irregular past tense, the results reported here add to the existing literature describing studies that have investigated the differential effects of CF on different target structures. In the present study, recasts were more effective in increasing accuracy in the use of regular past tense than for irregulars although they were beneficial for both targets.

Chapter 8. Results of Learner Individual Differences

8.1 Introduction

This chapter presents the results of the learners' individual difference factors in relation to the effects of recasts in an attempt to answer the following:

RQ 6. Does language anxiety influence the effect that recasts have on the grammatical accuracy of L2 learners' English past tense?

RQ 7. Does the provision of recasts have an influence on learners' anxiety levels as measured by their HR?

RQ 8. What is the relationship between learners' motivation/attitude towards English and their improvement in the use of past tense?

8.2 Anxiety results

8.2.1 Data analysis

In order to analyse the data obtained for research question (6), several steps were taken. Learners in both the recasts and the control groups were further divided into either high-anxiety or low anxiety sub-groups based on learners' responses to the Foreign Language Classroom Anxiety Scale (FLCAS). Descriptive statistics for FLCAS were calculated. Descriptive statistics for the performance of the four groups in both the oral and written tests at the three testing sessions (pre-test-immediate post-test and delayed post-test) were calculated. ANOVAs statistical tests were conducted to determine whether there is any significant difference between the four groups at any point of time.

8.2.2 Coding and scoring of FLCAS

With such closed-ended questionnaires, the coding frame is fairly straightforward (Dörnyei, 2003: 99). Each item in the questionnaire was ranked on a 5-point Likert scale. Responses ranged from 'strongly agree' (SA), 'agree' (A), 'neither agree nor disagree' (N), 'disagree (D)' to 'strongly disagree' (SD). Each of these responses was assigned a score: *5=SA, 4=A, 3=N, 2=D, 1=SD*. However, this scoring was not applicable to some of the items in the questionnaire. According to Horwitz (2008), the FLCAS has some revers-scored items which are items number 2, 5, 8, 11, 14, 18, 22, 28, 32 (See appendix 5d). For these particular items, based on Horwitz (2008), the researcher reversed the scores of the responses (i.e., *5=SD, 4=D, 3=N, 2=A, 1=SA*). To suit the learners' learning experience, while instructing learners on how to

complete the questionnaire, learners were told that the word ‘foreign language’ refers to English.

Scores on the FLCAS range from 33 to 165 where a higher score would indicate a higher level of language anxiety, whereas a lower score would indicate a lower level of anxiety. In order to evaluate the anxiety level of each learner, the researcher added up each learner's responses to all questionnaire items and divided the total score by the total number of questionnaire items (33). The researcher determined the anxiety level of each learner by calculating the average score for each learner. According to Horwitz (2008), an average score of 3 indicates a medium level of anxiety, an average score below 3 indicates a low level of anxiety and an average score above 3 indicates a high level of anxiety. Learners whose average scores were 3 were not included in the analysis.

To avoid the coding complexity that might arise as a result of missing data where no answer is provided for a given item for instance (missed or avoided), the researcher made sure after each single administration of the questionnaire to have a look at each item in the questionnaire and make sure that there is a clearly marked response for that item, and to ask learners to provide a response where there was not any response or more than one response for a particular item. Permission from learners was obtained to do so. Participants were allowed to ask the researcher questions related to the meaning of any statement.

8.2.3 Validity and reliability

In order to measure the internal consistency reliability of the FLCAS used in this study, the researcher conducted a reliability check using Cronbach’s Alpha reliability test. Cronbach’s Alpha is a widely used statistical test of internal consistency which is ‘’ a figure ranging between zero and +1, and if it proves to be very low, either the particular scale is too short or the items have very little in common’’ (Dörnyei, 2003: 112).

Table 8.1 below displays the results of the reliability test for the 33-item scale which yielded an excellent Cronbach’s Alpha value [α = .994] and the content of each item in the scale along with its corresponding reliability coefficient and the resulting Cronbach’s Alpha value if that particular item were deleted from the scale. As shown in table 8.1, by deleting any of the 33 items, the overall reliability of the total scale would either stay the same [α = .994] or decrease by.001 [α = .993]. This can be interpreted as all the 33 items contribute to the excellent internal consistency of the scale.

Table 8. 1 Reliability analysis for FLCAS

Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1- I never feel quite sure of myself when I am speaking in my foreign language class.	.931	.993
2- I don't worry about making mistakes in language class.	.878	.994
3- I tremble when I know that I'm going to be called on in language class.	.925	.993
4- It frightens me when I don't understand what the teacher is saying in the foreign language.	.917	.993
5- It frightens me when I don't understand what the teacher is saying in the foreign language.	.900	.994
6- It frightens me when I don't understand what the teacher is saying in the foreign language.	.913	.993
7- It frightens me when I don't understand what the teacher is saying in the foreign language.	.892	.994
8- I am usually at ease during tests in my language class.	.890	.994
9- I start to panic when I have to speak without preparation in language class.	.922	.993
10- I worry about the consequences of failing my foreign language class.	.856	.994
11- I don't understand why some people get so upset over foreign language classes.	.877	.994
12- In language class, I can get so nervous I forget things I know.	.915	.993
13- It embarrasses me to volunteer answers in my language class.	.854	.994
14- I would not be nervous speaking the foreign language with native speakers.	.890	.994
15- I get upset when I don't understand what the teacher is correcting.	.893	.994

16- Even if I am well prepared for language class, I feel anxious about it.	.893	.994
17- I often feel like not going to my language class.	.907	.994
18- I feel confident when I speak in foreign language class.	.926	.993
19- I am afraid that my language teacher is ready to correct every mistake I make.	.918	.993
20- I can feel my heart pounding when I'm going to be called on in language class.	.929	.993
21- The more I study for a language test, the more confused I get.	.926	.993
22- I don't feel pressure to prepare very well for language class.	.915	.993
23- I always feel that the other students speak the foreign language better than I do.	.940	.993
24- I feel very self-conscious about speaking the foreign language in front of other students.	.912	.994
25- Language class moves so quickly I worry about getting left behind.	.926	.993
26- I feel more tense and nervous in my language class than in my other classes.	.883	.994
27- I get nervous and confused when I am speaking in my language class.	.946	.993
28- When I'm on my way to language class, I feel very sure and relaxed.	.902	.994
29- I get nervous when I don't understand every word the language teacher says.	.918	.993
30- I feel overwhelmed by the number of rules you have to learn to speak a foreign language.	.829	.994
31- I am afraid that the other students will laugh at me when I speak the foreign language.	.953	.993
32- I would probably feel comfortable around native speakers of the foreign language.	.949	.993

33- I get nervous when the language teacher asks questions which I haven't prepared in advance.	.935	.993
Cronbach's alpha for the 33 items = .994		

8.2.4 Descriptive statistics of FLCAS

Table 8.2 displays the descriptive statistics for the FLCAS test. As the table indicates, the Recast group had a mean of (3.00) and the control group had a mean of (3.20). An Independent samples t-test showed no statistically significant difference between the two groups:

$$t\ (38)= -462,\ p= .647\ (p > .05)$$

Table 8. 2 Descriptive statistics for FLCAS scores means

Group	M	SD
Recast	3.00	1.298
Control	3.20	1.436

8.2.5 Oral test results

8.2.5.1 The Effects of Recasts and Language Anxiety on L2 Learning

Tables 8.3 below presents the descriptive statistics for the oral test over the three testing sessions (i.e., the pre-test, the immediate post-test, and the delayed post-test). Three one-way between-groups ANOVAs were performed in order to investigate whether group means differed statistically significantly at the time: pre-test, immediate post-test and delayed post-test. ANOVAS revealed no statistically significant differences among the four groups at the time of the pre-test:

$$F\ (3, 29) = .344,\ P= .793\ (P > .05)$$

However, at the time of the immediate post-test, there was a statistically significant difference among the four groups:

$$F\ (3, 29) = 3.652,\ P= .024\ (P < .05)$$

Post hoc tests using the Bonferroni adjustment for multiple comparisons, nevertheless, did not reveal where the statistically significant differences lie or among which pair.

Similarly, at the time of the delayed post-test, there was a statistically significant difference among the four groups:

F (3, 29) = 4.982, P= .007 (P < .05)

Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that the performance of the recasts low significantlyoutperformed the performance of the control high (*P* = .032 < .05) and the control low (*P* = .047 < .05). However, there was not any statistically significant difference between the recast high and recast low (*P* = 1.000 > .05), recast high and control high (*P* = .097 > .05), recast high and control low (*P* = .130 > .05), and finally between control high and control low (P = 1.000 > .05).

In order to examine if the differences in the groups' means over time were statistically significant, repeated measures ANOVAs were performed. The analyses revealed the following: For the high-anxiety recast group, there was a significant effect of time *F* (2, 16) = 9.847, *p* = .002. Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that the performance of the high-anxiety recast group significantly differed from the pre-test to the delayed post-test (*P* = .014 < .05), but not from the pre-test to the immediate post-test (*P*= .104 >.05) nor between the post-tests themselves (*P*= .144). The mean scores of the low-anxiety recast group also differed significantly between time points *F* (2, 14) = 12.119, *p* = .001 with the means significantly increased from the pre-test to the delayed post-test (*p* = .008) and between post-tests themselves (*P* = .058), but not from the pre-test to the immediate post-test (*p* = .168).

On the other hand, both the high-anxiety and the low-anxiety control groups revealed different patterns to what has been reported for the high and low-anxiety recast group showing no statistically significant effect of time (*F* (2, 16) = 1.078, *P* = .364 > .05) for the high-anxiety control group. Spherecity was violated for the low-anxiety control group as evident in the value of Mauchly's test of sphericity (*p* = .048). Since the values of Epsilon were both less than .75, we interpret the Greenhouse-Geisser correction (*F* (2, 12) = .995, *P* = .368 > .05).

Table 8. 3 Group means and standard deviations for oral test

	Pre-test		Immediate Post-test		Delayed Post-test	
	M	*SD*	*M*	*SD*	*M*	*SD*
Low-anxiety recast (n=8)	58.38	19.316	68.38	11.109	78.75	11.486
High- anxiety recast (n=9)	52.11	8.652	63.56	10.841	75.67	11.214
Low-anxiety control (n= 7)	56.00	16.031	53.43	11.998	61.00	10.296
High-anxiety control (n= 9)	53.44	9.289	54.67	8.617	61.22	14.158

8.2.5.2 Summary

A summary of the oral tests results from research question (6), as displayed in Table 8.4 and Table 8.5 which summarize the statistically significant differences that emerged from the analyses, indicates that regarding the within group (between tests) results , only the participants in the two recast groups have significantly improved scores across testing sessions with the low-anxiety recast group manifesting medium-term gains from the immediate post-test to the delayed post-test and long-term gains from the pre-test to the delayed post-test, while the high-anxiety recast group manifested only long-term gains from the pre-test to the delayed post-test. On the other hand, the performance of both the high and low anxiety control groups did not differ significantly between any testing sessions.

Regarding the between-group comparisons, there was not any statistically significant difference between any of the four groups the pre-test. The immediate post-test revealed statistically significant difference between the four groups, although, multiple comparisons did not show where the difference lies. However, in the delayed post-test, only the low-anxiety recast group significantly outperformed the low and high anxiety control groups.

Table 8. 4 Summary of statistically significant between groups differences

Delayed post-test	**Low-anxiety recast > low-anxiety control**
	Low-anxiety recast > high-anxiety control

Table 8. 5 Summary of statistically significant within-group differences

Group	**Time**
High-anxiety recast	Immediate post-test = Pre-test Delayed post-test = Immediate post-test **Delayed post-test > Pre-test**
Low-anxiety recast	Immediate post-test = Pre-test **Delayed post-test > Immediate post-test** **Delayed post-test > Pre-test**

8.2.6 Written Test Results

8.2.6.1 The Effects of Recasts and Language Anxiety on L2 Learning

Table 8.6 below presents the descriptive statistics for the written test over the three testing sessions (i.e., the pre-test, the immediate post-test, and the delayed post-test). Three one-way between-groups ANOVAs were performed in order to investigate whether group means differed statistically significantly at the time of the pre-test, immediate post-test and delayed post-test. This revealed no statistically significant difference among the four groups at the time of the pre-test:

$$F\ (3, 29) = .965,\ P = .422\ (P > .05)$$

Or the immediate post-test:

$$F\ (3, 29) = 2.451,\ P = .083\ (P > .05)$$

However, at the time of the delayed post-test, ANOVA revealed statistically significant differences among the four groups:

$$F\ (3, 29) = 21.184,\ P = .000\ (P < .05)$$

Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that the performance of the recasts low significantly outperformed the performance of the control high ($P = .001 < .05$) and the control low ($P = .000 < .05$). Similarly, the performance of the recast high significantly outperformed the performance of the control high ($P = .001 < .05$) and

control low (P = .000 < .05). However, there was not any statistically significant difference between the performance of the recast high and the recast low (P = 1.000 > .05) nor between the control high and control low (P = 1.22 > .05)

In order to examine if the differences in the groups' means over time were statistically significant, repeated measures ANOVAs were performed. The analyses revealed the following: For the high-anxiety recast group, there was a significant effect of time F (2, 16) = 11.914, p = .001. Post hoc tests using the Bonferroni adjustment for multiple comparisons revealed that the performance of the high-anxiety recast group significantly differed from the pre-test to the delayed post-test (P = .006 < .05) and between post-tests themselves (P = .05), but not from the pre-test to the immediate post-test (P= .177 >.05). The mean scores of the low-anxiety recast group also differed significantly between time points F (2, 14) = 17.981, P = .000 with the means significantly increased from the pre-test to the immediate post-test (p = .040) and from the pre-test to the delayed post-test (p = .001), but not between post-tests themselves (p = .133).

On the other hand, the high-anxiety and the low-anxiety control groups revealed different patterns to what has been reported for the high and low-anxiety recast group showing no statistically significant effect of time (F (2, 16) = .383, p= .688 > .05). The low-anxiety control group showed statistically significant effect of time (F (2, 12) = 5.565, P = .019> .05). However, the pairwise comparisons doesn't reveal it between any of the testing times

Table 8. 6 Group means and standard deviations for writing test

	Pre-test		Immediate Post-test		Delayed Post-test	
	M	*SD*	*M*	*SD*	*M*	*SD*
Low-anxiety recast (n= 8)	53.50	9.165	68.50	6.633	76.63	10.211
High- anxiety recast (n= 9)	54.78	13.386	64.22	13.036	76.33	8.276
Low-anxiety control (n=7)	48.00	7.789	56.00	8.505	48.00	6.658
High-anxiety control (n=9)	57.00	11.068	59.44	8.847	58.56	8.413

8.2.6.2 Summary

A summary of the written tests results from the research question (6), as displayed in Table 8.7 and Table 8.8 which summarize the statistically significant differences that emerged from the analyses , indicates that regarding the within group (between tests) results , only the participants

in the two recast groups have significantly improved scores across testing sessions with the low-anxiety recast groups manifesting short-term gains from the pre-test to the immediate post-test and long-term gains from the pre-test to the delayed post-test, while the high-anxiety recast group manifested long-term gains from the pre-test to the delayed post-test and medium-term gains from the pre-test to the delayed post-test and medium-term gains between the two post-tests. On the other hand, the performance of both the high and low anxiety control groups did not differ significantly between any testing sessions.

Regarding the between-group comparisons, there was not any statistically significant difference between any of the four groups in both the pre-test and immediate post-test. However, in the delayed post-test, the low-anxiety recast group significantly outperformed the low and high anxiety control groups. Similarly, the high-anxiety recast group significantly outperformed the low and high anxiety control groups

Table 8. 7 Summary of statistically significant between groups differences

Delayed post-test	**Low-anxiety recast > low-anxiety control**
	Low-anxiety recast > high-anxiety control
	High-anxiety recast > high-anxiety control
	High-anxiety recast > low-anxiety control

Table 8. 8 Summary of statistically significant within-group differences

Group	**Time**
High-anxiety recast	Immediate post-test = Pre-test **Delayed post-test > Immediate post-test** **Delayed post-test > Pre-test**
Low-anxiety recast	**Immediate post-test > Pre-test** Delayed post-test = Immediate post-test **Delayed post-test > Pre-test**

8.3 Heart Rate and Recasts

In order to investigate whether the provision of recasts has an effect on increasing learners' anxiety level, the researcher employed an-online measurement of learners' heart rate using Polar beat HR monitor. Learners' HR was measured at resting time prior to the each treatment sessions, and again during the session. The aim was to calculate the average of learners HR at rest and compare it to the average maximum heart rate during treatment sessions where recasts were provided.

Table 8. 9 Descriptive statistics for the average and maximum HR variation (beats per m) for each of the five sessions for each of the twenty participants in the recasts group

Subject	Average HRatR					Maximum HR				
	Time 1	Time 2	Time 3	Time 4	Time 5	SES1	SES2	SES3	SES4	SES5
1	88	90	80	92	87	90	91	82	92	88
2	79	77	78	74	73	80	79	78	76	74
3	85	88	87	79	78	85	88	88	80	80
4	85	85	84	89	92	84	83	87	87	90
5	93	95	89	92	91	90	94	90	90	88
6	75	77	79	74	77	75	78	74	79	80
7	80	78	84	82	88	75	81	83	79	78
8	79	77	77	77	80	74	77	79	76	78
9	82	84	86	87	81	80	83	88	87	89
10	93	90	95	92	87	90	95	94	93	92
11	72	74	76	79	80	70	76	78	74	71
12	82	83	82	87	83	84	85	86	88	89
13	66	67	71	74	69	68	69	70	71	70
14	90	86	85	93	90	89	86	89	84	81
15	72	77	81	84	79	77	78	76	71	70
16	84	86	87	92	95	85	86	82	88	88
17	67	69	64	70	71	69	68	66	71	70
18	75	76	79	83	86	74	75	77	80	87
19	80	82	80	82	85	88	80	81	81	82
20	71	76	73	72	79	70	74	74	71	81
Mean	79.90	80.85	80.85	82.70	82.55	79.85	81.30	81.10	80.90	82.55
SD	7.953	7.250	6.900	7.589	7.104	7.686	7.428	7.203	7.376	7.104

Paired Sample t-test

In order to investigate whether learners' heart rate differs between the resting time and during the treatment sessions, a paired sample t-test was conducted. Before the test was run, the

researcher computed a new variable 'difference' which is the difference between learners' HR before and during the treatment session. The new variable was used to test for normality which is an assumption for paired-ample t-test. The result of shapiro-wilk test of normality revealed that the data is normally distributed.

$$P = .366 > .05$$

Paired sample t-test results revealed no statistically significant difference between participants' heart rate at rest and during the treatment sessions

$$t\ (19) = 1.111,\ P = .281 > .05$$

This indicates that the provision of recasts during the treatment sessions had no effect on learners' heart rate. HR in this study was taken as an indicator pf learners' anxiety level, and since HR did not statistically changed before and during the provision of recasts, the results support the claim that recasts is a non-threatening type of CF which does not contribute to learners' anxiety level.

8.4 Motivation and Attitude Results

8.4.1 Data Analysis

In dealing with the data collected for RQ8, several methods were used: descriptive statistics, correlations, t-test and multiple regression. The researcher conducted multiple regression stepwise analysis using an enter selection method to see if any of the four subscales of the battery used in this study predicted the leering gains in the recasts group. Four constructs: attitude towards English people, attitude towards learning English, integrative orientation and instrumental orientation were used as independent predictor variables and the gain scores for the use of simple past tense (post-test scores and delayed post-test scores) were used as dependent, outcome variables. It might be argued that the sample size in the present study is not large enough to perform multiple regression, which ideally should be performed on a larger sample size depending on the number of the independent variables (predictors). However, according to Profozic (2012), I have reported the adjusted R2 value along the R2 value, which shows what the R2 value would be "if the model were derived from the general population rather than the sample in the study" (p. 235).

8.4.2 Coding and Scoring of AMTB

Similar to the FLCAS, the coding scheme of the AMTB is straightforward. Each item in the four subscales of the AMTB adapted in the present study was ranked on a 7-point Likert scale. Responses ranges from 'strongly disagree', 'moderately disagree', 'slightly disagree',

'neutral', 'slightly agree', 'moderately agree', 'strongly agree'. Each of these responses was assigned a score starting from 1-7 respectively. However, for the negatively worded items, these scores were reversed and started from 7-1 respectively.

Scores were calculated for each subscale separately. For the subscale 'attitude towards English people', the maximum score was 70. A higher score would indicate a positive attitude towards English people, while a lower score would indicate a negative attitude towards English people. For 'attitudes towards learning English', the maximum score was 56. The two motivation subscales (instrumental and integrative), maximum scores were 28 each.

The researcher checked that all participants completed the full questionnaire and left no item without unmarked response.

8.4.3 Validity and Reliability

In order to measure the internal consistency reliability of the AMTB used in this study, the researcher conducted a reliability check using Cronbach's Alpha reliability test. Table 8.9 below displays the results of the reliability test for each subscale used in the present study based on the values of Cronbach alpha. For the subscale measuring **attitudes towards English people**, reliability test yielded an excellent Cronbach's Alpha value [$\alpha = .982$]. Table 8.10 displays the content of each item in the scale along with its corresponding reliability coefficient and the resulting Cronbach's Alpha value if that particular item were deleted from the scale. As shown in table 8.10, deleting any of the 10 items would decrease the overall reliability of the total subscale. This can be interpreted as all the 10 items contribute to the excellent internal consistency of the subscale. The same analysis was conducted on the other three subscales. (For a detailed presentation of the reliability co-efficient of each particular item in the other three subscale, see appendix 8a).

Table 8. 10 Cronbach's Alpha values of subscales in the AMTB version used in the study

Subscale	Cronbach's Alpha value
Attitudes towards English people	.982
Attitudes towards learning English	.984
Integrative orientation	.783
Instrumental orientation	.853

1- Attitude towards English People

Table 8. 11 Reliability analysis for the subscale 'Attitude towards English people'

Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1- English people are considerate of the feelings of others.	.896	.980
2- I have a favourable attitude towards English people.	.894	.980
3-The more I learn about English people, the more I like them.	.933	.979
4- English people are trustworthy and dependable.	.935	.979
5- I have always admired the English people.	.923	.979
6 English people are very friendly and hospitable.	.923	.979
7- English people are cheerful, agreeable and good humoured.	.914	.980
8 I would like to get to know English people better.	.902	.980
9- English people are very kind and generous.	.921	.979
10- For the most part, English people are sincere and honest.	.866	.981
Cronbach's Alpha for the 10 items = .982		

8.4.4 Results

8.4.4.1 Descriptive statistics

Table 8.12 displays the descriptive statistics for the four subscales used in this study for both the recasts group and the control group

Table 8. 12 Descriptive statistics for AMTB

Subscale	**Recasts Group**		**Control Group**	
	M	**SD**	**M**	**SD**
Attitudes towards English People (AEP)	51.35	13.335	50.60	14.627
Attitudes towards learning English (ALE)	51.50	3.832	53.85	3.498
Integrative Orientation (IveO)	25.45	1.820	25.10	2.198
Instrumental Orientation (IalO)	24.90	2.269	25.10	2.553

Four independent sample t-tests were conducted to see if there is any difference between the scores of the recasts group and the control group on each of the four subscales. The results revealed no statistically significant difference between the groups on any of the four subscales and the values were as follows (respectively)

t (38) = .169 p= .866 > .05

t (38) = -2.025 p= .050 = .05

t (38) = .548 p= .587 > .05

t (38) = -.262 p= .795 > .05

The correlation analysis between the four subscales for the whole sample revealed no significant Pearson correlation coefficient between any two of the four scales. This means there is no relationship between the four variables:

The Pearson correlation coefficient between AEP scores and ALE indicated no significant relationship: r = - .049 (p =.765).

The Pearson correlation coefficient between AEP scores and IveO indicated no significant relationship: r = - .029 (p =.857).

The Pearson correlation coefficient between AEP scores and IalO indicated no significant relationship: r = .155 (p =.340).

The Pearson correlation coefficient between ALE scores and IveO indicated no significant relationship: r = -.059 (p =.719).

The Pearson correlation coefficient between ALE scores and IalO indicated no significant relationship: r = -.087 (p =.592).

The Pearson correlation coefficient between IveO scores and IalO indicated no significant relationship: r =.150 (p =.354).

8.4.4.2 Multiple regression analyses

Table 8.13displays the results of the multiple regression stepwise analyses for oral and written production of the RE group.

Table 8. 13 Multiple regression coefficients for the gain scores in oral and written production for the RE group

Oral Test						Written Test					
Post-test			Delayed Post-test			Post-test			Delayed Post-test		
Adjusted R2	F	P	Adjusted R2	F	P	Adjusted R2	F	P	Adjusted R2	F	P
-.141, F (4,15) = .414, p= .796			-.012, F (4,15) = .943, p= .466			.073, F (4,15) = 1.372, P= .290			.-.174, F (4, 15) = .298, P= .875		

Table 8. 14 Multiple regression stepwise analyses for oral and written production of the CN group

Oral Test						Written Test					
Post-test			Delayed Post-test			Post-test			Delayed Post-test		
Adjusted R2	F	P	Adjusted R2	F	P	Adjusted R2	F	P	Adjusted R2	F	P
-.222, F (4,15)= .138, p= . 965			.060, F (4,15)=1.304, p= .313			-.053, F (4,15) = .761, P= .567			.087, F (4, 15) = 1.453, P= .265		

The model has no explanatory power; none of the IV(s) help to predict the DV in both the post-test and delayed post-test. In other words, none of the four subscales investigated in the present study appeared to be a significant predictor of any of the scores gains of the recast group in both the oral and written production measure. In the table above, the researcher only reported the value of R2, and the F value with its p-value for the whole model (the four subscales together). Since the F value proved nonsignificant for the whole model at each measure, for each testing session, there is no point of reporting each subscale results on its own.

8.5 Discussion

Research questions (6), (7) and (8) asked whether learners' anxiety level, motivation and attitude as affective ID factors mediate the role of recasts and whether recasts increase learners' level of anxiety. ANOVA revealed anxiety effects in the oral test only. The results of Multiple Regression Analyses show that none of the four variables representing motivation and attitude was a significant predictor to learning in either the recast group or the control group in any measure.

8.5.1 Language anxiety and the efficacy of recasts

Research Question (6) asked whether language anxiety mediated the effects recasts have on improving learners' grammatical accuracy in the use of English past tense. To investigate this question, learners' performance on both the oral and written measures at the three testing sessions was compared across the four sub-groups: (a) high-anxiety recast, (b) low-anxiety recast, (c) high-anxiety control, and (d) low-anxiety control. The findings revealed that in the oral test, the low-anxiety recast group scored significantly higher than the low-anxiety and high-anxiety control groups on the delayed post-test. On the other hand, there was no significant difference in the post-tests scores of the high-anxiety recast group and the control groups. For the written test, both the high-anxiety and low-anxiety recasts group outperformed the control groups in the delayed post-test. This means that anxiety effect appeared only in the oral test and these effects were long-term ones. Regarding within-group differences, only the recasts groups made progress between tests, with the low-anxiety recasts group achieving more gains.

The finding that language anxiety had a negative effect on learners' ability to benefit from CF in the form of recasts falls in line with Horwitz *et al.*'s (1986, 2000, 2001) views on the debilitating effect of anxiety. However, in the present study, anxiety effects were evident only in the oral test, while not in the written test. This again provides evidence on the relative role of anxiety depending on the type of the learning activity learners are performing.

The current research boosts previous research on the relationship between language anxiety, as measured by anxiety questionnaires, and L2 achievement (Horwitz *et al.*, 1986). It also extends research which investigated how anxiety affects learners' processing of the corrective feedback they receive from teachers (MacIntyre and Gardner, 1994).

We have seen in the previous chapters that a number of factors play a role in the effectiveness of CF, and that explained why research findings have been inconclusive with regards to recasts effectiveness. The findings of the present study provide supporting evidence why research to date has not yielded firm conclusions on the role of recasts in L2 learning by showing that learner individual differences, anxiety, in particular, mediate the effects of recasts and should be taken into account when investigating how L2 learners process and make use of the feedback provided on their L2 production.

These findings are discussed in light of the following:

8.5.1.1 Type of learning activity

The results of the present study provide evidence on the mediating effect of anxiety depending on the type of test learners undertake. We have seen that as opposed to the oral test, which is believed to pose more difficulty on L2 learners compared to written tests, recasts were effective for both high-anxiety and low-anxiety learners who achieved long-term gains over the control groups in the written test. As such, anxiety was not a mediating factor in the written test. Research has shown that learners experience varying degrees of anxiety depending on the type of classroom activity they perform. Studies have demonstrated that foreign language anxiety effects are ample in activities that require oral production which is problematic for L2 learners (Horwitz *et al*., 1986; Philips, 1989, 1992; Young, 1991; Aydin, 1999). Testing situations, especially oral tests, also have been shown to increase learners' level of anxiety. L2 learners reported experiencing a high level of anxiety in evaluative situations (Horwitz *et al*., 1986; Young, 1991).

The oral test that was used in the present study involves two components: Speaking and testing situation. As such, anxiety in the present study was found to have negative effects on learners' performance in the oral test and to mediate the effects recasts had on L2 learning. In the present study, oral production was used to examine learners' ability to speak the target language and comprehend it, and here was where anxiety effects appeared, which supports previous research on the effects of anxiety in oral production tests. Written measures, in contrast, were mostly reported in the literature as less anxiety-provoking activities. This has led L2 researchers to make a clear distinction between speaking anxiety and writing anxiety with an overriding presence for anxiety in speaking situations. Furthermore, researchers have further distinguished between speaking anxiety inside the language classroom and speaking anxiety outside the classroom in the environment where the target language is the tool for everyday communication (Woodrow, 2006).

8.5.1.2 The nature of recast

The fact that recasts were equally effective for both high and low anxiety learners in the written test can also be due to the nature of recasts as an arguably non-threatening type of feedback. Researchers classified recasts as a generally indirect type of feedback which does not explicitly signal to learners that an error has been committed (Long, 2007). It is expected then that recasts would arouse minimal anxiety in learners, which is the case in the present study for the written

measure, but not oral measure due to the more overwhelming nature of oral activities as been discussed in the previous section. The current study supports the claim that anxiety can be debilitative of L2 learning. However, its effects can be mitigated through the implementation of suitable types of feedback that take learners' individual differences in language anxiety into account. Second language educators and theorists have emphasised this by advising L2 teachers to choose CF types that do not affect learners affect or arouse their anxiety, Recasts being the most prominent among these (Ellis, 2009 ; Long, 1996; 2007).

8.5.1.3 The nature of the interaction

Anxiety did not have a great impact on learners' performance in the present study and that could partially be caused by the nature of the interaction between the researcher and each participant. Research on L2 anxiety and its sources has shown that a great deal of anxiety reported by L2 learners was attributed to "fear of negative evaluation" by either the teacher or other peers and by the testing situations (Horwitz *et al.*, 1986; Young, 1991). In the present study, however, each learner interacted on a one-to-one basis with the researcher with no presence of any other peers. Learners' participation was completely voluntary. Moreover, the context where the interaction took place was a room in Newcastle City library, which is believed to have created an informal atmosphere and reduced the effects of anxiety. Furthermore, although the evaluative situation is expected to exert some form of uneasiness, it did not seem to have imposed an extra burden on learners since it is not for the purpose of formal assessment that would be used as a criterion to upgrade learners to a higher level in their language course. All these reasons are assumed to have helped learners in the present study be more relaxed and minimise anxiety effects which were, however, present in the oral test.

8.5.2 The effects of recasts on heart rate

In the present study, learners' HR was measured before and during the treatment sessions where recasts were provided. This was done with the aim to investigate whether the provision of recasts would affect learners' anxiety level. The results showed no differences between learners' HR level before and during the treatment sessions, which suggests that recasts do not contribute to learners' anxiety level in the present study.

8.5.3 Motivation/attitude and the efficacy of recasts

Motivation and attitude did not seem to have mediated recasts' effectiveness in the present study. In other words, the results of multi regression analyses showed that motivation and attitude as operationalized in the present study were not significant predictors to learning in the

recasts group. In addition. None of the four constructs investigated through MATB correlated with each other. We may assume that all learners in the recasts group were highly motivated to learn English and that they hold positive attitudes towards learning English and towards English community as well. The findings of the present study can be discussed in light of the following.

8.5.3.1 Learners' high level of motivation and attitude

Looking at learners' responses to the AMTB employed in the present study reveals that all learners reported high level of motivation and attitudes towards English language and people. As opposed to anxiety scores, learners in the present study could not be further divided into subgroups based on their levels of motivation and attitudes since they are all classified as having a positive attitude towards English language and community and as possessing both integrative and instrumental orientation towards English. All participants in the present study seemed to be willing to improve their English for both instrumental reasons like, getting a job, etc. and also to be more able to integrate with the English community especially that their kids are settled well and integrating with the community. Table 8.11 above shows that learners in the recasts group achieved a mean score of 51.35 out of 70 for the subscale ***'attitudes towards English people'***, a mean score of 52.50 out of 56 for the subscale ***'attitude towards learning English***', an average score of 25.45 out of 28 for the subscale ***'integrative orientation'***, and a mean score of 24.9 out of 28 for the subscale ***'instrumental orientation'***. This explains why none of these four scales was a significant predictor of learning gains in the experimental group. The results of the present study do not go in line with studies that reported a significant mediating role of motivation and attitude in L2 learning (Dekeyser, 1993).

8.5.3.2 The Role of Motivation and Attitude in the effectiveness of recasts

Chapter 7 reported the results of oral and written production measures and showed that recasts were beneficial for L2 learners in improving their use of the English past tense. We can argue here that one of the reasons that could have helped recasts be beneficial in the present study was the high level of motivation and attitude learners in the present study in general, and the recasts group in particular, reported. Their motivation to learn English and the positive attitude they hold towards English Language and people could have helped learners attend to the researcher's recasts and benefit from them in their subsequent production of the past tense. Here, I argue that although an assumption could be made regarding the facilitative role of positive motivation and attitude for L2 learning, a comparison between learners with varying degrees of motivation and attitudes would have been more informative of the mediating role

of motivation and attitude in L2 learning. Moreover, one should not forget that the original AMTB consists of further subscales that havenot been implemented in the present study. This should be taken into account when drawing conclusions on the effects of attitude/motivation in the effectiveness of recasts. Had all the subscales been included in the present study, one might have probably found some of these subscales to be significant predictors of learning gains in the recasts group.

Chapter 9. Conclusion

9.1 Introduction

The preceding chapters (6, 7, and 8) investigated the effectiveness of recasts as an oral CF technique and the mediating role of three affective individual difference factors; namely, anxiety, motivation and attitude. The linguistic target in the present study was the English past tense in its regular vs. irregular forms which are argued to involve L2 learners in different processing and impose various degrees of difficulty, the regular form being the most difficult among the two. The research design employed a pre-test, treatment sessions, immediate post-test and a delayed post-test. Recasts effectiveness was examined by comparing the effects of the treatment (the recasts group) with no treatment (the control group). Recasts were provided to learners while they were performing five communicative activities focussing on the use of English past tense. In this chapter, I will review the findings reported in the previous three chapters. A discussion of the theoretical and pedagogical implications of the study will follow. Finally, the limitations of the current research will be highlighted suggesting areas for future research in the field.

9.2 Summary of Main Findings

9.2.1 The effects of recasts on learner uptake/repair and the mediating role of the target structure and recasts characteristics

Research questions 1, 2 and 3 asked about the effectiveness of recasts in generating learners' uptake and repair of their past tense errors and whether recasts' effectiveness differs according to the type of the target structure and the characteristics of recasts. The present study found a very high rate of learner uptake (94%) and a good rate of repair (64%) following recasts. Recasts' effectiveness in leading to learner uptake was not mediated by the type of the target structure: L2 learners produced a very high rate of uptake of their regular (93%) as well as irregular (96%) past tense errors in response to recasts. However, the rate of repair differed between the two target structures with learners repairing their irregular past tense errors more often than their irregular past tense errors following recasts (72% vs. 55%). The rate of uptake following recasts was not influenced by the type of recast as learners displayed a very high percentage of uptake following both full (92%) and partial recast (96%). On the other hand, partial recasts resulted in a higher rate of repair (74%) than full recasts (52%).

9.2.2 The effects of recasts on oral and written production and the mediating role of the target structure

Research questions 4 and 5 investigated whether recasts help learners improve their use of simple past tense as measured by oral and written production tests, and whether recasts' role is more evident in the use of regular vs. irregular past tense. Results of the oral production measure reported short-term and long-term beneficial effects of recasts for both the regular and irregular past tense structures alike:

- The recasts group improved significantly from the pre-test to the immediate post-test, from the pre-test to the delayed post-test in the accurate use of both the regular and irregular past tense. Moreover, the recasts group also significantly improved from the immediate post-test to the delayed post-test in the use of the regular past tense but not in the use of the irregular past tense.
- The control group showed no improvement over time for either the regular or irregular past tense.
- No group differences were found between the recasts group and the control group for both target structures in the pre-test. However, the recasts group outperformed the control group in the use of both the regular and irregular past tense in both immediate and delayed post-tests.

Results of the written production measure revealed that:

- The recasts group improved significantly over time from each testing session to the other in the use of the regular past tense. In the use of the irregular past tense, however, the recasts group showed medium and long term improvements from the pre-test to the delayed post-test and between post-test themselves, but not short term gains from the pre-test to the immediate post-test.
- The control group showed no improvement over time for the use of the regular past tense, but it significantly improved between the immediate post-test and the delayed post-test in the use of the irregular past tense.
- There were no group differences between the recasts group and the control group in the pre-test or the immediate post-test for both the regular and irregular past tense. On the other hand, the recasts group significantly outperformed the control group in the use of both target structures in the delayed post-test.

9.2.3 The mediating role of learners' individual differences

Research questions 6 and 8 asked whether learners' individual differences, mainly the three affective factors, anxiety, motivation and attitude mediate the role of recasts in the use of simple past tense. Results reported in the previous chapter revealed that anxiety had an impact on the role of recasts in the oral test only with only the low-anxiety recasts group outperforming the control groups in the delayed post-test, which suggests a long-term impact of anxiety. Moreover, participants in both the high-anxiety and low-anxiety recast groups achieved within group gains and improved scores across testing times with the low-anxiety recast group achieving short and long-term gains, while the high-anxiety recasts group achieved only long-term-gains that appeared only in the delayed post-test. In the written measure, however, anxiety effects did not appear since both the high-anxiety and low-anxiety recasts groups significantly outperformed the control groups in the delayed post-test only, which suggests a long term effect for recasts in the written test. Furthermore, participants in both the high-anxiety and low-anxiety recast groups achieved within-group gains with the low-anxiety recast group achieving both short and long term gains, while the high-anxiety recasts group achieving medium and long-term gains.

Motivation and attitude measured by the four subscales of the AMTB did not seem to impact the way recasts work on the learning of the simple past tense. The four subscales used in the present study did not prove to be significant predictors of learning gains in the recasts group in either the oral or the written measure.

9.2.4 Recasts and heart rate

One of the current study aims was to investigate whether recasts have an impact on learners' anxiety levels as represented by their heart rates measured via HR monitors. A comparison between learners' average HR before the treatment sessions and their HR during the treatment sessions revealed no statistically significant differences. Therefore, we can assume that the provision of recasts did not impose any anxiety on learners. Had recasts been an anxiety-provoking type of CF in the current study, one would have expected to see a significant increase in learners' HR when recasts were provided during the course of treatment.

9.3 Contribution of the Study

The present study has provided clear evidence on the effectiveness of recasts when delivered in the course of communicative tasks. Recasts were shown to aid the learning of a specific

target structure when they were provided systematically on errors in its use. The findings of the current study also foster the claim that recasts have differential effects on different target structures although they proved to be effective on both structures compared in the present study. Various types of recasts affect L2 learning in different ways. The present study has also provided a platform for new methods of examining recasts and affective factors by implementing an online measurement of learners' HR. The study investigated whether or not recasts is an anxiety-provoking type of feedback and thus its use in L2 learning should be considered.

9.4 Theoretical Implications of the Study

9.4.1 The role of recasts in L2 learning

The current study reported beneficial effects of recasts in generating learners' uptake and repair of past tense errors and in helping learners improve their level of accuracy in the use of both regular and irregular past tense. It lends support to the claim that the "cognitive comparisons" learners engage with when comparing their erroneous utterances with the target language ones provided through recasts is essential for learning to take place (Doughty, 2001, 2010). This noticing of the gap between the erroneous output and the target input is essential for learning (Schmidt, 1995, 2001). The findings of the present study lend support to the Interaction Hypothesis (Long, 1980, 1981, 1996) and focus-on-form as advocated by cognitive accounts of L2 acquisition. Recasts provide learners with the grammatical counterparts to their non-grammatical utterances in the least intrusive way so that learners can still have their focus on meaning (Doughty and Varela, 1998; Long, 1996, 2007). The same point was emphasized in L1 literature by L1 interactionist researchers (Farrar, 1990, 1992; Saxton, 1997, 2010). For example, the 'Direct Contrast Hypothesis' (Saxton, 1997) proposed that the negative evidence provided to the child through immediate recasting of the erroneous utterance is believed to draw the child's attention to the 'mismatch' between the wrong from and the adult form. Saxton (1997) and Saxton *et al*. (1998) studies reported positive effects of negative evidence provided through recasts compared to positive input alone in improving children's grammaticality and reducing the percentage of errors.

Recasts in the present study had positive effects on both the oral and written post-tests in which learners had to use the target structure in contexts. Recasts which were provided to learners during communicative tasks seemed to have helped learners improve their implicit knowledge, which is evident through the production of oral spontaneous data during story retelling test. Moreover, recasts were also effective in promoting learners' explicit knowledge, which was

clear through the performance of written compositions tests that gave leaners the chance to reflect on their declarative, explicit knowledge about past tense formation.

In their meta-analysis of the effectiveness of L2 instruction, Norris and Ortega (2000) investigated whether the type of outcome measure impact observed instructional effectiveness. "Overall, then, observed instructional effectiveness within primary research to date has been based much more extensively on the application of explicit declarative knowledge under controlled conditions, without much requirement for fluent, spontaneous use of contextualized language". (p. 486).

The findings of the present study are congruent with other laboratory-based studies which have revealed a positive impact of recasts on L2 learning (Long *et al*., 1998; Mackey and Philp, 1998; Han, 2002; Braidi, 2002; Iwashita, 2003; Ishida, 2004; Egi, 2007; Profozic, 2012). However, they contradict the results of classroom-based studies which have reported other CF techniques to be more effective than recasts in L2 learning (Lyster, 2004; Ammar and Spada, 2006; Ellis *et al.*, 2006; Sheen, 2007; Yang and Lyster, 2010).

9.4.2 The role of uptake with repair

As been discussed earlier, researchers have argued that the presence of uptake/ repair does not mean that learning has taken place (Gass, 1997; Oliver, 2000). However, a counter argument has stated that the presence of uptake indicates that learners have noticed the feedback provided on their errors. The emphasis on the importance of uptake/repair in L2 learning was motivated by the noticing hypothesis (Schmidt, 1990, 1994, 1995, 2001) and the output hypothesis (Swain, 1985). In the noticing hypothesis, uptake is an index of noticing which is an important step towards learning. In the output hypothesis, uptake is a practice of L2 production which is also a significant component of L2 learning. Based on these two theoretical hypotheses, we can argue that uptake, especially that includes repair, is facilitative of L2 learning. Examples of studies which have investigated the relationship between uptake following recasts and subsequent learning of specific linguistic structures is the study by Profozic (2012). In that study, the researcher reported an association between uptake with repair and long term gains in the oral production measure of one of the two structures investigated (the passé compose) in the recasts group. Similarly, a number of study have reported a positive relationship between successful uptake and L2 learning (Nabei and Swain, 2002; Tocalli-Beller and Swain, 2005 and Loewen, 2005). Although the present study has not attempted to relate uptake to learning, it has provided clear evidence of the immediate effects of recasts in generating learners' uptake

and the developmental effects of recasts in leading to improvement in the use of English past tense.

9.4.3 The relative effects of recasts on two grammatical structure

Recasts in the present study were shown to be facilitative for learning both structures: the regular past tense as a rule-based system and the irregular past tense as an exemplar-based system which differ in the degree of difficulty in terms of processing and retrieving (Skehan, 1998). Because of the input-providing nature of recasts, recasts provided learners with target-like examples of both structures. This helped learners gain more control over the two structures alike. The literature is replete with studies which have compared the relative effects of recasts on more than one target structure, some of these studies targeted linguistic features of binary nature (Long *et al.*, 1998; Iwashita, 2003; Ishida, 2004; Ammar and Spada, 2006, Ellis, 2007; Yang and Lyster, 2010; Profozic, 2012). In most of these studies, recasts were shown to have differential effects on different target structures. In short, the previous examples stated above support the idea that there is not a single answer to the question of which is the most effective type of CF. CF and recasts in particular have differential effects on various target structures. This is consistent with Han's (2002) statement that 'not all linguistic forms are equally susceptible to recasts' (p.551). Long (2007), cited in Goo and Mackey (2013: 131), concluded "recasts or other delicate, unobtrusive forms of corrective feedback work satisfactorily for some linguistic targets (e.g., meaning-bearing items) better than others, but more explicit, more intrusive intervention is required for communicatively redundant, acoustically non-salient forms" (p.12).

9.4.3 The relative effects of implicit vs. explicit recasts

Many L2 researchers have argued that recasts is an implicit and ambiguous type of CF (Lyster and Ranta, 1997; Lyster, 1998, 2004; Panova and Lyster, 2002; Yang and Lyster, 2010). A number of studies on the role of CF in L2 learning compared the effects of recasts as an implicit CF form with prompts or metalinguistic feedback as an explicit form of feedback and reported superiority of the explicit CF techniques over recasts (Lyster, 2004; Ammar and Spada, 2006; Yang and Lyster, 2010) . This view, however, was challenged later by a suggestion that recasts should not be viewed as either implicit or explicit, but rather be considered on a continuum of implicitness-explicitness, and their effectiveness depends on whether their corrective force is perceived as such to learners (Ellis, 2010, Lyster *et al.*, 2013). The present study supports this claim. The context of the this study (the one-on-one interaction) may have helped learners notice recasts and perceive it as corrective although they were engaged in communicative,

meaning-oriented tasks (Profozic, 2012). The fact that recasts were directed at one specific linguistic target has also made them more salient.

In the present study, we operationalized recasts in two different forms (full vs. partial) assuming that partial recasts will be more explicit than full recasts. The findings revealed that partial recasts (a more explicit form of CF) were more effective in leading to learners' repair of their past tense errors. This, again, lends support to the line of research which reported differential effects of different CF techniques with varying degrees of explicitness. More importantly, it has shown that the linguistic features of recasts can add to their implicitness/ explicitness. There are of course other paralinguistic elements that have shown recasts to be explicit such as the study of Doughty and Valera (1998) in which recasts were provided with a rising intonation that helped recasts be more explicit and hence more effective. In this regard, this study adds to this line of research.

9.4.4 The role of affective factors in recasts effectiveness

The individual difference factors investigated in the present study were not generally shown to have an impact on the role of recasts in L2 learning. Among the three factors, anxiety was the only variable to have an effect on recasts on the oral measure. Research on the role of CF and individual differences in L2 learning has reported mediating effects of learners' individual difference factors (Dekeyser, 1999; Havranek and Cesnik, 2001; Sheen, 2008; Mackey *et al.*, 2010; Rassaei, 2015). The findings of the present study, however, do not support this line of research since the context is different from other studies. The nature of the one-to-one interaction between the researcher and learners is believed to have created a more relaxed environment where learners' high level of motivation and attitude could be proposed as facilitating factors in the learning process.

9.5 Pedagogical Implications of the Study

The current study findings provide evidence of the effectiveness of recasts as a CF strategy in L2 learning in that they contributed to L2 learners' improvement in the use of English past tense. Recasts' effectiveness was clear in both oral and written production measures. This indicates that recasts can be facilitative of both types of knowledge required for oral performance (implicit knowledge) and written performance (explicit knowledge).

Recasts were provided in the context of communicative, focused tasks designed to maximize the chance of producing past tense and receiving feedback on errors in its use. While researchers recommend not using any type of CF in fluency activities in order not to interrupt

the flow of communication and consequently, discourage learners' use of the target language, the current study has shown that providing CF during communicative tasks can be made possible through the use of recasts which do not impede communication. In his book about task-based learning, Ellis (2003) emphasized the importance of focused communicative tasks in generating an obligatory use of target structures in a communicative and interactive manner. The communicative tasks used in the present study were designed with the aim to create a natural, obligatory context for the use of the target structure. The narrative tasks and the question and answer tasks included reference to past event and successfully elicited simple past tense uses.

The findings of the current study provide counter evidence to the claims that CF should not be provided during fluency activities, such as the ones used in the present study. In contrast, the present study showed that an unobtrusive CF technique, like recasts, can be facilitative of L2 learning and at the same time not interfering in the course of communication. Another implication of the study is related to learners' individual differences. Although not all the affective factors investigated in the current research were shown to mediate the role of recasts, yet, second language anxiety was shown to be a mediating factor, which suggests that teachers should fine-tune their feedback based on their learners' needs and individual differences.

Although the present study was not conducted in an L2 classroom, its findings that can be transferred to a classroom context and inform L2 teaching practices and pedagogy suggest that:

- incorporating a CF component (recasts in this instance) into communicative activities can be done in the context of teacher-learner interaction;
- focus-on-form communicative tasks, such as the ones employed in the present study, have the dual function of engaging learners with meaning, while at the same time highlighting language forms. In such activities, recasts proved to be an effective technique to provide feedback on errors in the least intrusive manner; and
- CF is more effective when targeting a specific grammatical feature that learners have already partially acquired.

9.6 Limitations of the Study

The present study has a few limitations which, had they been addressed, the study would have yielded more robust results. First, it can be argued that the sample size in the present study was not large enough to run statistical analyses or draw conclusions on the role of recasts in L2 learning. The small sample size may limit the generalisability of the findings to the larger population. This included 40 participants in total, balanced with the same number of

participants (20) in each of the recast group and the control group. However, given the nature of the one-on-one interaction and the testing time that involved individual testing on three occasions in addition to the questionnaires and heart rate measuring that had to be done individually for each participant, a larger sample would not have been possible logistically. It was already quite difficult to tailor the study based on learners' individual schedules and that of the researcher and to complete all the tests and tasks. Second, Researchers have argued that findings obtained through laboratory studies that involve one-to-one interactions cannot be of practical implications for L2 classroom teaching (Ellis *et al*., 2006). This is because the dynamics of classroom and the nature of teacher-student interaction differ substantially from laboratory contexts where researcher-participant interaction takes another direction. Considering the current research, there might be a possibility that being in a controlled environment, participants might have been prompted to monitor their performance during the treatment sessions and the tests. The opposite might be true, too, i.e, the nature of the study in the absence of a teacher and an educational context, like a classroom, might have also led participants not to perform up to their capacity. Furthermore, participants could experience various levels of anxiety or manifest different degrees or types of motivation in a classroom context as opposed to a laboratory context. As such, this might have affected the findings of the present study. However, controlling the variables in the present study, especially measuring heart rate would not have been possible in a 'messy environment like a classroom'. The new methodology adopted in this research needed to be tested first and the only feasible way was to have it tested on one-to-one basis and, hence, recommendations for future studies to adopt it in classroom environment can be proposed. Having explained this, the researcher too several steps, as mentioned in the methodology chapter, to ensure that other threats to the external validity have been eliminated or mitigated. Third, although the researcher took all care possible to ensure the delivery of recasts in the treatment group while not delivering any feedback to the control group strictly guided by the research design, the dual role of the teacher/researcher may have affected the implementation of the research design. **"**The best studies from a methodological point of view are those in which neither the participants nor the people who conduct the study are familiar with the research hypotheses. Researchers may (subconsciously) influence the procedure due to the expectations they have (researcher expectancy)" (Lowie and Seton, 2013: 54). Fourth, affective factors are constructs that can only be measured through self-reported data obtained via questionnaires, surveys, etc. With this kind of instrument, it is hard to pin down whether participants are reporting what they really are in reality. It all depends on their reports which can rarely be challenged or verified due to the absence of online

measures. Everything people say or report has to be taken at face value. This is why the validity of such measures have been questionable. Finally, there may be a practice effect in the present study because both oral and written tests included a limited number of test items.

9.7 Recommendations for Future Research

Regardless of the extensive body of research conducted to examine the role of CF in L2 learning, there are still many questions that need to be investigated. Further studies are required to investigate the affective and cognitive variables that are believed to play a role in CF effectiveness. According to Ellis's (2010) framework, learners' individual differences include both cognitive and affective factors with a wide range of variables. The present study could have benefitted from the inclusion of other cognitive variable to better examine the interaction between recasts and a variety of both cognitive and affective factors. Little is understood about how these variables interact and influence each other and impact CF function. A call for more qualitative approach into the role of affective variables in L2 learning is due in order to gain more in-depth insights into the nature and effect of these affective variables, especially with the absence of 'valid' measurements. The present study employed heart rate measurement to gather information on learners' anxiety level. We recommend the replication of this study in a classroom context for a more pedagogical application of such methodology with the inclusion of a comparative group to know whether the developments participants made in the use of the past tense are due to the provision of recasts in particular and not because of the provision of CF in general. In order to better understand the emotional impact associated with oral corrective feedback in L2 classrooms, future studies need to adopt a more qualitative and ecologically valid research design.

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Appendices

Appendix 5a: Copy of the consent form signed by the participants

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RESEARCH CONSENT FORM

Research for PhD Project: The Role of Corrective Feedback and Individual Differences in Second Language Learning

Researcher: Al Khansaa Martakush

I, the undersigned participant, agree to take part in the above named project / investigation, the details of which have been fully explained to me. The researcher explained to me all of what is required from me in this study, and she clarified anything that might affect me as a participant in this project. The researcher provided me with a project description copy which fully explains the project and my contribution to the study. Also, the researcher took the full responsibility to keep data (sound files, transcripts and writing) confidential and anonymised, with all references to proper nouns (i.e. identifying people, places or institutions) removed. The data collected as part of my participation will only be used in accordance with the permission that I give to the researcher in this form.

Please tick

I understand I can withdraw my consent at any time by contacting the researcher.

I give my permission for the data which I will provide to be used for research purposes only (including research publications, reports, seminars).

I agree to the researcher making a sound recording and to notes being taken during the study.

I confirm that I have read and understood the Information Sheet provided to me and have had the opportunity to ask the researcher questions regarding the project.

I hereby assign the copyright of my contribution to the researcher

Name…… Signature……

Date……

(Participant's full name[2])

I, the undersigned researcher, certify that the details of this project / investigation have been fully explained and described in writing to the subject named above and have been understood by him / her. I also take the full responsibility to keep data confidential and the participant's identity anonymous. The participant's privacy and safety is my top responsibility in this project.

Name: Al Khansaa Martakush…… Signature…….

Date……

(Researcher's full name)

Appendix 5b: Copy of participant general questionnaire

The information you give will be treated as confidential and will only be used in data analysis. Your anonymity will be retained in the presentation of results from the study.

1. Your name:
2. Your native language(s):
3. Are you: (a) female (b) male (tick one)
4. Your date of birth:
5. Age at which you first started learning English
6. Number of years you have attended English classes:
7. Have you lived in an English-speaking community? (a) yes (b) no (tick one)

If your answer is 'yes', how long in months:

8. Other languages you speak fluently:
9. Other languages you speak moderately:
10. How long have you been learning English?
11. How have you been exposed to English?

Appendix 5c: Oxford Quick Placement Test (OQPT)

University *of* Cambridge
Local Examination Syndicate

OXFORD
University Press

School code: ☐ Participant code: ☐

Name: _____ Date: _____

quick placement test

Version 2

Part 1 (Questions 1- 40) – All students

Time: 30 minutes

Quick Placement Test

Part 1

Question 1 – 5

- Where can you see these notices?
- For questions **1** to **5**, mark one letter **A**, **B** or **C** on your **Answer Sheet**.

1. YOU CAN LOOK, BUT DON'T TOUCH THE PICTURES			A	B	C
A► in an office	B► in a cinema	C► in a museum			
2. PLEASE GIVE THE RIGHT MONEY TO THE DRIVER			A	B	C
A► in a bank	B► on a bus	C► in a cinema			
3. NO PARKING PLEASE			A	B	C
A► in a street	B► on a book	C► on a table			
4. CROSS BRIDGE FOR TRAINS TO EDINBURGH			A	B	C
A► in a bank	B► in a garage	C► in a station			
5. KEEP IN A COLD PLACE			A	B	C
A► on clothes	B► on furniture	C► on food			

Question 6 –10

- In this section you must choose the word which best fits each space in the text below.
- For questions **6** to **10**, mark **one** letter **A**, **B**, or **C** on your Answer Sheet

THE STARS

There are millions of stars in the sky. If you look **(6)**.....the sky on a clear night, it is possible to see about 3000 stars. They look small, but they are really **(7)**.....big hot balls of burning gas. Some of them are huge, but others are much smaller, like our planet Earth. The biggest stars are very bright, but they only live for a short time. Every day new stars **(8)**.....born and old stars die. All the stars are very far away. The light from the nearest star takes more **(9)**.....four years to reach Earth. Hundreds of years ago, people **(10)**.....stars, like the North Star, to know which direction to travel in. Today you can still see that star.

6.			A	B	C
A► at	B► up	C► on			
7.			A	B	C
A► very	B► too	C► much			
8.			A	B	C
A► is	B► be	C► are			
9.			A	B	C
A► that	B► of	C► than			
10.			A	B	C
A► use	B► used	C► using			

Question 11 - 15

- In this section you must choose the word which best fits each .space in the texts.
- For questions **11** to **20**, mark one letter **A**, **B**, **C** or **D** on your Answer Sheet.

Good smiles ahead for young teeth

Older Britons are the worst in Europe when it comes to keeping their teeth. But British youngsters **(11).....**more to smile about because **(12).....**teeth are among the best. Almost 80% of Britons over 65 have lost all or some **(13).....**their teeth according to a World Health Organisation survey. Eating too **(14).....**sugar is part of the problem. Among **(15).....**, 12-year-olds have on average only three missing, decayed or filled teeth.

				A	B	C	D
11.							
A► getting	**B►** got	**C►** have	D► having				
12.				A	B	C	D
A► their	**B►** his	**C►** them	**D►** theirs				
13.				A	B	C	D
A► from	**B►** of	**C►** among	**D►**between				
14.				A	B	C	D
A► much	**B►** lot	**C►** many	**D►**deal				
15.				A	B	C	D
A► person	**B►** people	**C►** children	**D►**family				

Question 16 - 20

Christopher Columbus and the New World

On August 3, 1492, Christopher Columbus set sail from Spain to find a new route to India, China and Japan. At this time most people thought you would fall off the edge of the world if you sailed too far. Yet sailors such as Columbus had seen how a ship appeared to get lower and lower on the horizon as it sailed away. For Columbus this **(16)**.....that the world was round. He **(17)**.....to his men about the distance travelled each day. He did not want them to think that he did not **(18)**.....exactly where they were going. **(19)** ....., on October 12, 1492, Columbus and his men landed on a small island he named San Salvador.
Columbus believed he was in Asia, **(20)**.....he was actually in the Caribbean.

				A	B	C	D
16.							
A► made	B► pointed	C► was	D► proved				
17.				A	B	C	D
A► lied	B► told	C► cheated	D► asked				
18.				A	B	C	D
A► find	B► know	C► think	D► expect				
19.				A	B	C	D
A► Next	B► Secondly	C► Finally	D► Once				
20.				A	B	C	D
A► as	B► but	C► because	D► if				

Question 21 - 30

- In this section you must choose the word or phrase which best completes each sentence.
- For questions **21** to **40**, mark one letter **A**, **B**, C or **D** on your Answer Sheet.

21. The children won 't go to sleep .....we leave a light on outside their bedroom.				A	B	C	D
A► except	B ► otherwise	C► unless	D► but				
22. I'll give you my spare keys in case you..... home before me.				A	B	C	D
A► would get	B ► got	C► will get	D► get				
23. My holiday in Paris gave me a great..... to improve my French accent.				A	B	C	D
A► occasion	B ► chance	C► hope	D► possibility				
24. The singer ended the concert..... her most popular song.				A	B	C	D
A► by	B ► with	C► in	D► as				
25. Because it had not rained for several months, there was a..... of water.				A	B	C	D
A► shortage	B ► drop	C► scare	D► waste				
26. I 've always .....you as my best friend.				A	B	C	D
A► regarded	B ► thought	C► meant	D► supposed				
27. She came to live her..... a month ago.				A	B	C	D
A► quite	B ► beyond	C► already	D► almost				
28. Don't make such a..... ! The dentist is only going to look at your teeth.				A	B	C	D
A► fuss	B ► trouble	C► worry	D► reaction				
29. He spent a long time looking for a tie which..... with his new shirt.				A	B	C	D
A► fixed	B ► made	C► went	D► wore				
30. Fortunately, ...from a bump on the head, she suffered no serious Injuries from her fall.				A	B	C	D
A► other	B ► except	C► besides	D► apart				

Question 31 – 40

31. She had changed so much that..... anyone recognised her.				A	B	C	D
A► almost	B► hardly	C► not	D► nearly				
32. .....teaching English, she also writes children's books.				A	B	C	D
A► Moreover	B► As well as	C► In addition	D► Apart				
33. It was clear that the young couple were..... of taking charge of the restaurant.				A	B	C	D
A► responsible	B► reliable	C► capable	D► able				
34. The book..... of ten chapters, each one covering a different topic.				A	B	C	D
A► comprises	B► includes	C► consists	D► contains				
35. Mary was disappointed with her new shirt as the colour..... very quickly.				A	B	C	D
A► bleached	B► died	C► vanished	D► faded				
36. National leaders from all over the world are expected o attend the .....meeting.				A	B	C	D
A► peak	B► summit	C► top	D► apex				
37. Jane remained calm when she won the lottery and.....about her business as if nothing had happened.				A	B	C	D
A► came	B► brought	C► went	D► moved				
38. I suggest we..... outside the stadium tomorrow at 8.30.				A	B	C	D
A► meeting	B► meet	C► met	D► will meet				
39. My remarks were..... as a joke, but she was offended by them.				A	B	C	D
A► pretended	B► thought	C► meant	D► supposed				
40. You ought to take up swimming for the..... of your health.				A	B	C	D
A► concern	B► relief	C► sake	D► cause				

Appendix 5d: Foreign Language Classroom Anxiety Scale (FLCA)

1. I never feel quite sure of myself when I am speaking in my foreign language class.

2. I don't worry about making mistakes in language class.

3. I tremble when I know that I'm going to be called on in language class.

4. It frightens me when I don't understand what the teacher is saying in the foreign language.

5. It wouldn't bother me at all to take more foreign language classes.

6. During language class, I find myself thinking about things that have nothing to do with the course.

7. I keep thinking that the other students are better at languages than I am.

8. I am usually at ease during tests in my language class.

9. I start to panic when I have to speak without preparation in language class.

10. I worry about the consequences of failing my foreign language class.

11. I don't understand why some people get so upset over foreign language classes.

12. In language class, I can get so nervous I forget things I know.

13. It embarrasses me to volunteer answers in my language class.

14. I would not be nervous speaking the foreign language with native speakers.

15. I get upset when I don't understand what the teacher is correcting.

16. Even if I am well prepared for language class, I feel anxious about it.

17. I often feel like not going to my language class.

18. I feel confident when I speak in foreign language class.

19. I am afraid that my language teacher is ready to correct every mistake I make.

20. I can feel my heart pounding when I'm going to be called on in language class.

21. The more I study for a language test, the more con- fused I get.

22. I don't feel pressure to prepare very well for language class.

23. I always feel that the other students speak the foreign language better than I do.

24. I feel very self-conscious about speaking the foreign language in front of other students.

25. Language class moves so quickly I worry about getting left behind.

26. I feel more tense and nervous in my language class than in my other classes.

27. I get nervous and confused when I am speaking in my language class.

28. When I'm on my way to language class, I feel very sure and relaxed.

29. I get nervous when I don't understand every word the language teacher says.

30. I feel overwhelmed by the number of rules you have to learn to speak a foreign language.

31. I am afraid that the other students will laugh at me when I speak the foreign language.

32. I would probably feel comfortable around native speakers of the foreign language.

33. I get nervous when the language teacher asks questions which I haven't prepared in advance.

Appendix 5e: Attitude Motivation Test Battery (AMTB)

Following are a number of statements with which some people agree and others disagree. There are no right or wrong answers since many people have different opinions. We would like you to indicate your opinion about each statement by circling the alternative below it which best indicates the extent to which you disagree or agree with that statement.

Following is a sample item. Circle the alternative below the statement which best indicates your feeling.

English People are very friendly and hospitable

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

In answering this question, you should have circled one of the above alternatives. Some people would circle Strongly Disagree, others would circle Strongly Agree, and still others would circle one of the alternatives in between. Which one you circled would indicate your own feelings based on everything you know and have heard. Note, there is no right or wrong answer. All that is important is that you indicate your personal feeling.

Please give your immediate reactions to each of the following items. Don't waste time thinking about each statement. Give your immediate feeling after reading each statement. On the other hand, please do not be careless, as it is important that we obtain your true feelings.

1. Learning English is really great.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

2. I have always admired the English people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

3. Studying English can be important for me because other people will respect me more if I have a knowledge of a foreign language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

4. Studying English can be important for me because it will enable me to better understand and appreciate English art and literature.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

5. English people are very kind and generous.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

6. Studying English can be important to me because it will allow me to be more at ease with English-speaking people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

7. For the most part, English people are sincere and honest.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

8. Studying English can be important to me because I think it will someday be useful in getting a good job.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

9. I love learning English.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

10. English people are trustworthy and dependable.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

11. English people are very friendly and hospitable.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

12. I think that learning English is dull.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

13. I would rather spend my time on subjects other than English.

Strongly Disagree | Moderately Disagree | Slightly Disagree | Neutral | Slightly Agree | Moderately Agree | Strongly Agree

14. English people are considerate of the feelings of others.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

15. Studying English can be important for me because it will make me a more knowledgeable person.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

16. Learning English is a waste of time.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

17. I have a favourable attitude towards English people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

18. I plan to learn as much English as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

19. The more I learn about English people, the more I like them.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

20. Studying English can be important for me only because I'll need it for my future career.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

21. I would like to get to know English people better.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

22. I really enjoy learning English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

23. Studying English can be important for me because I will be able to participate more freely in the activities of other cultural groups.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

24. English people are cheerful, agreeable and good humoured.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

25. I hate English.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

26. Studying English can be important for me because it will make me a more knowledgeable person.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

Please answer the following items by circling the letter of the alternative which appears most applicable to you. We would urge you to be as accurate as possible since the success of this investigation depends upon it.

If it were up to me whether or not to take English, I:

a) would definitely take it.

b) would drop it.

c) don't know whether I would take it or not.

I find studying English:

a) not interesting at all.

b) no more interesting than most subjects.

c) very interesting.

If the opportunity arose and I knew enough English, I would watch English T.V. programmes:

a) sometimes.

b) as often as possible.

c) never

If I had the opportunity to see an English play, I would:

a) go only if I have nothing else to do.

b) definitely go.

c) not go.

If there were English-speaking families in my neighbourhood, I would:

a) never speak English to them.

b) speak English with them sometimes.

c) speak English with them as much as possible.

If I had the opportunity and knew enough English, I would read English magazines and newspapers:

a) as often as I could.

b) never.

c) not very often.

I am studying English because:

a) I think it will someday be useful in getting a good job.

b) I think it will help me to better understand English people and way of life.

c) It will allow me to meet and converse with more and varied people.

d) A knowledge of two languages will make me a better educated person

Appendix 5f: Written test instruments

Pre-test

Name:

Date:

Use the following items to compose a short paragraph (No more than 20 lines) about the following topic:

A nice vacation with friends

Below is a list of verbs you have to use in your composition. However, you can also use other verbs in addition to them

Go, try, shine, enjoy, feel, start, walk, drive, hold, decide, run, lay, chat, change

You need to use the past tense consistently and you can be aided by the following transition phrases:

Last weekend, then, afterwards, next, after that, later, etc.

Immediate Post-test

Name:

Date:

Use the following items to compose a short paragraph (No more than 20 lines) about the following topic:

Interesting things you did last weekend

Below is a list of verbs you have to use in your composition. However, you can also use other verbs in addition to them

Change, run, Go, start, try, hold, feel, chat, shine, enjoy, walk, drive, decide, lay

You need to use the past tense consistently and you can be aided by the following transition phrases:

Last weekend, then, afterwards, next, after that, later, etc.

Delayed Post-test

Name:

Date:

Use the following items to compose a short paragraph (No more than 20 lines) about the following topic:

A horrible day

Below is a list of verbs you have to use in your composition. However, you can also use other verbs in addition to them

Try, shine, chat, hold, Go, decide, run, enjoy, feel, lay, start, change, walk, drive

You need to use the past tense consistently and you can be aided by the following transition phrases:

Last weekend, then, afterwards, next, after that, later, etc.

Appendix 5g: Oral test instruments

Pre-test

True Friendship

Jane and Sam are close friends. Once, they discussed the origin of Universe. Each of them presented a different opinion. The discussion ended with a fight. Mike is a mutual friend. He knew about the story and thought of a solution. He came up with an idea. He bought two cards and sent one to Sam with Jane's name on it and the other to Jane with Sam's name on it. They became very happy after they received the cards. Next day, Mike told them the truth. They thanked him for being a great friend. After that, Jane and Sam realized that true friends should accept each other's opinions and decided not to fight again.

Immediate Post-test

The Importance of Reading

There was a boy who likes toys very much. His granddad came up with an idea to surprise him on Christmas. He bought a book and sent it to him by post. The boy received the gift and thanked his granddad. He thought it's a toy, but when he knew it's a book, he became very sad. After a long time, the boy decided to have a look at the book. Then, he realized for the first time the title of the book '*Reading is a great game'*. He told his granddad the truth about the whole thing and discussed it with him. The granddad presented him with many examples of interesting books. The discussion ended in a positive way and the boy became a great reader.

Delayed Post-test

The Importance of Reading

There was a boy who likes toys very much. His granddad came up with an idea to surprise him on Christmas. He bought a book and sent it to him by post. The boy received the gift and thanked his granddad. He thought it's a toy, but when he knew it's a book, he became very sad. After a long time, the boy decided to have a look at the book. Then, he realized for the first time the title of the book '*Reading is a great game'*. He told his granddad the truth about the whole thing and discussed it with him. The granddad presented him with many examples of interesting books. The discussion ended in a positive way and the boy became a great reader.

Appendix 5h: Treatment instruments

Q and A Activity Part 1 and 2

1- How many eggs did Mrs. Anderson need to make the carrot cake? *(4 eggs)*	*(4 eggs)*
2- When did The Andersons move to the new flat? *(a couple of months ago)*	*(a couple of months ago)*
3- Where did you swim last summer? *(in Latakia)*	*(in Latakia)*
4- When did the football match begin last night? *(at 6:00 pm)*	*(at 6:00 pm)*
5- Where did Mr. Anderson find his keys? *(in his office)*	*(in his office)*
6- Who did you play football with last weekend? *(my school friends)*	*(my school friends)*
7- When did Sami finish his homework last night? *(at 6:00 pm)*	*(at 6:00 pm)*
8- How many fish did the fisherman catch last summer? *(233 fish)*	*(233 fish)*
9- When did you wash your new shirt? *(two days ago)*	*(two days ago)*
10- How many letters did Mr Anderson send to his wife? *(a thousand letters)*	*(a thousand letters)*
11- What time did you wake up this morning? *(at 6:00 am)*	*(at 6:00 am)*
12- How long did the Second World War last for? *(6 years)*	*(6 years)*
13- When did you submit your last assignment? *(last Wednesday)*	*(last Wednesday)*
14- Who did the Andersons invite for dinner last weekend? *(their friends)*	*(their friends)*

15- **How much money did Mr. Anderson lend his friend?** ***(5000 SP)***	***(5000 SP)***
16- **When did people come to Mrs. Anderson's cookies party?** ***(in the evening)***	***(in the evening)***
17- **Where did you bind your dissertation?** ***(in the library)***	***(in the library)***
18- What kind of flowers did Mrs. Anderson grow last spring? ***(Lilies)***	***(Lilies)***
19- **How long did it take leonardo da vinci to paint the mona lisa?** ***(almost 3 years)***	***(almost 3 years)***
20- **When did Nancy Ajram release her last album?** ***(Autumn 2013)***	***(Autumn 2013)***
21- **What did Mr. Anderson buy to his wife on Valentine's Day?** ***(a bunch of red roses)***	***(a bunch of red roses)***
22- **When did Mr. Anderson arrive from travel last night?** ***(at mid night)***	***(at mid night)***
23- **What did colonized countries fight for in history?** ***(freedom)***	***(freedom)***
24- **How many new buildings did the government build last summer?** ***(2 buildings)***	***(2 buildings)***
25- **Who did Mr. Anderson present his project with?** ***(with his colleagues)***	***(with his colleagues)***
26- What did you plan for next weekend? ***(Studying for exam)***	***(Studying for exam)***
27- When did you get your exam results? ***(yesterday afternoon)***	***(yesterday afternoon)***

28- **What time did Mr. Anderson fly to London last weekend?** ***(at 8:00 am)***	***(at 8:00 am)***
29- **What time did Mr. Anderson fly to London last weekend?** ***(at 8:00 am)***	***(at 8:00 am)***
30- **Where did you go yesterday?** ***(to the cinema)***	***(to the cinema)***
31- **How did you respond to the invitation?** ***(by saying 'yes')***	***(by saying 'yes')***
32- **How did Mr. Anderson solve the problem?** ***(wisely)***	***(wisely)***
33- **How much money did Mr. Anderson's friend borrow from him?** ***(£500)***	***(£500)***
34- **When did Mr. Anderson compose his last poem?** ***(Last winter)***	***(Last winter)***
35- **How long did the Andersons stay on the beach last summer?** ***(2 weeks)***	***(2 weeks)***
36- **Where did you hang your coat yesterday?** ***(on the coat hanger)***	***(on the coat hanger)***
37- When did Mr. Anderson introduce his friend to his family? ***(last Christmas)***	***(last Christmas)***
38- **What did you arrange with your friends?** ***(A weekend in Edinburgh)***	***(A weekend in Edinburgh)***
39- **What did you tell your friend at the meeting yesterday?** ***(a secret)***	***(a secret)***

40- **What did Nany Ajram announce on her last TV interview?** ***(her new video clip)***	***(her new video clip)***
41- **How many hours did you sleep last night?** ***(7 hours)***	***(7 hours)***
42- **What did Mrs. Anderson cook for dinner yesterday?** ***(Roast chicken)***	***(Roast chicken)***
43- **How did Mr. Anderson help his wife yesterday?** ***(in cleaning the house)***	***(in cleaning the house)***
44- **What did Mr. Anderson choose for dinner last weekend?** ***(Roast Beef)***	***(Roast Beef)***
45- **Where did Mr. Andesron hide his mum's gift?** ***(under his bed)***	***(under his bed)***
46- **What did the Andersons name their first born?** ***(Mike)***	***(Mike)***
47- **What time did Mr. Anderson phone his wife yesterday?** ***(8:00 pm)***	***(8:00 pm)***
48- **Who did Mr. Anderson contact for his project?** ***(a number of companies)***	***(a number of companies)***
49- Who did Mr. Anderson organize the conference with? ***(with his colleagues)***	***(with his colleagues)***
50- **How did Mr. Anderson feel after his last project?** ***(relieved)***	***(relieved)***

Picture-Cued Narrative Activity

Good and Bad incidents

Mention to me one bad incident and one great incident you experienced in the past. Tell me what you have learned out of both experiences. What impact did both incidents have on shaping your character as it is now?

First experience with a book

1- Why did you decide to read?

2- Why did you choose that particular book?

3-How did you get the book?

4- What was it about?

5- When did you start reading it?

6- How long did it take you to finish it?

7- What did you learn from it?

8- Did it encourage you to read more books later? How?

9- Did you share your experience with others, friends for example? What did you tell them?

Appendix 6a: Examples from the data set

Example 1:

T: When did the football match begin last night?
S: [at] at 6:00 pm.
T: You need to provide a full answer.
S: [pause] [Ah-huh], yes, yes. [stress]The football match begin at 6:00 pm.
T: The football match began.
S: [falling intonation] at 6:00 pm yeah, [ah] let me see, [rising intonation] yes at 6.

Example 2:

S: [clearing throat] I decide to read the book because my friend told me about it a lot.
T: You decided.
S: [Ah] simple past here [laughter], exactly she [stress]told me many times and I [stress] got it from her. It taken me one week every day.
T: It took you one week.
S: [ermmm] May be a bit more, but I enjoyed the story. I [cough] [excise me] learned from it to be nice with other people. It encourage me to read again.
T: It encouraged
S: encouraged encouraged, {laughter].
T: Yes continue your story.
S: I, [I, eh] shared the book with other friends.

Appendix 8a: Reliability test results for the scales in AMTB

Subscale 2: Attitude towards Learning English

Reliability Statistics

Cronbach's Alpha	N of Items
.984	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AttitudeLearningEnglish1	46.33	10.994	.817	.987
AttitudeLearningEnglish2	46.20	10.626	.979	.979
AttitudeLearningEnglish3	46.23	10.640	.960	.980
AttitudeLearningEnglish4	46.15	11.003	.879	.984
AttitudeLearningEnglish5	46.25	10.705	.927	.982
AttitudeLearningEnglish6	46.20	10.626	.979	.979
AttitudeLearningEnglish7	46.20	10.626	.979	.979
AttitudeLearningEnglish8	46.23	10.692	.942	.981

Subscale 3: Integrative Orientation

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.783	.781	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
IntegrativeOrientation1	18.85	2.336	.648	.445	.701
IntegrativeOrientation2	18.98	1.922	.715	.517	.661
IntegrativeOrientation3	19.15	2.695	.534	.309	.759
IntegrativeOrientation4	18.85	2.695	.488	.266	.779

Subscale 4 Instrumental Orientation

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.853	.854	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
InstrumentalOrientation1	18.75	3.321	.726	.550	.800
InstrumentalOrientation2	18.78	3.307	.748	.580	.791
InstrumentalOrientation3	18.73	3.435	.658	.505	.829
InstrumentalOrientation4	18.75	3.372	.649	.499	.833