Article

Effects of Recasts, Metalinguistic Feedback, and Students' Proficiency on the Acquisition of Greek Perfective Past Tense

Sophia Ioannou [1,*] and Dina Tsagari [2]

[1] School of Modern Greek, University of Cyprus, Nicosia 1678, Cyprus
[2] Department of Primary and Secondary Teacher Education, Faculty of Education and International Studies, 0167 Oslo, Norway; dina.tsagari@oslomet.no
[*] Correspondence: ioannou.k.sophia@ucy.ac.cy

Abstract: The role of interactional corrective feedback in second language assessment has attracted both teachers' and second language researchers' interest, as they are concerned with when corrective feedback can be implemented to assist second language acquisition. This quasi-experimental intervention study aims to investigate the impact of two corrective feedback types, namely recasts and metalinguistic feedback, and students' proficiency in the acquisition of the Greek perfective past tense. The sample consists of ten adult beginners' classes (n = 86 students) of the Modern Greek Language Teaching Center of the University of Athens. The classes were randomly assigned to three treatment conditions: (a) recast; (b) metalinguistic feedback; (c) no feedback and participated in form-focused production activities. A grammaticality judgment pretest and posttest were administrated to measure participants' development on the explicit knowledge of perfective past tense morphology. After the treatment, participants were divided in the database into high and low beginner students based on their performance on a placement test administrated prior to the treatment. Results revealed that the groups that received corrective feedback outperformed the control group, while no statistical significance was found between the two treatment groups. Moreover, high-beginner learners benefited equally from both feedback types, whereas low-beginner learners benefited significantly from metalinguistic feedback.

Keywords: interactional feedback; form-focused instruction; recasts; metalinguistic feedback; Greek as a second language

1. Introduction

In the field of testing and assessment, formative assessment (FA) is often defined as a process of assessing learning, modifying teaching according to information gathered from teachers and students' activities, and promoting learning with the aim of improving learners' competence (Black and Dylan 1998; Turner 2012). Inappropriate use of FA because of misunderstanding of the concept of FA seems to lead to limited learning opportunities and low-quality teaching. Even though FA has been implemented successfully in a number of countries (Asghar 2010; Brookhart et al. 2010; Hume and Coll 2009; Taras 2008; Tarnanen and Huhta 2011; Wang 2008), FA-related research in the area of second or foreign language (FL/L2) learning is still limited (Rea-Dickins 2004, 2008), especially in the Greek context (Ioannou 2020; Ioannou and Tsagari 2022).

Some of the basic techniques of enacting FA are 'observation', 'questioning', as well as 'feedback provision'. In terms of the later, different types of feedback have been identified in the literature. Corrective feedback (CF), in particular, has been defined as "any teacher behavior that attempts to inform the learner of the fact of error" (Chaudron 1988, p. 150). CF has been in the heart of second language (L2) acquisition and pedagogy for the past three decades as it preoccupied both teachers and researchers. As Ellis (2017) put it, CF constitutes an "interface issue" that brings together the concerns of teachers and researchers.

Teachers are concerned if and when they should correct their students, which mistakes they should correct and how (Harmer 2007; Scrivener 2011; Ur 2012). Researchers' interest has primarily focused on the role of CF in L2 classrooms and the conditions under which CF is more effective (see Lyster et al. 2013; Mackey 2020; Nassaji 2020; Nassaji and Kartchava 2021).

CF has been a controversial topic among second language acquisition theories. Innatists, based on the principles of Chomsky's' Universal Grammar (UG) theory (e.g., White 2003), claim that learning takes place when the UG principles are triggered by exposure to language input and, since learners have access to these principles, explicit instruction and CF hardly play a role (e.g., Cook 1985; Schwartz 1993). However, cognitive theories consider CF crucial for L2 learning, as it promotes cognitive procedures such as noticing, hypothesis-testing and proceduralization that were proved to promote L2 acquisition (e.g., Dekeyser 2015; Long 1996; Schmidt 2001; Swain 2005).

The interaction approach (Mackey and Goo 2012; Mackey and Gass 2015), stemming from the Interaction Hypothesis (Long 1996), postulates that interaction has a central role in the second language classroom as it can promote acquisition. According to Long (1996), communication breakdowns during meaning-focused conversational interaction can assist L2 learning as there may be opportunities for negotiation of meaning. Negotiation of meaning refers to conversational strategies (e.g., confirmation checks, reformulations, repetitions, clarification requests) used to deal with communication breakdowns. Negotiation assists L2 development as it provides learners with important sources of comprehensible input, highlights linguistic problems, and provides negative evidence to students' erroneous utterances (Gass and Varonis 1994; Long 1996; Pica 1994). Interactional feedback, based on this approach, refers to "feedback that is generated in response to both linguistically erroneous and communicatively inappropriate utterances that learners produce during conversational interaction" (Nassaji 2015). Interactional CF, according to interactionists, can promote L2 acquisition as it provides important information about the grammaticality of students' utterance, promotes opportunities for the development of form-meaning mapping (Gass 1997; Long 1996; Pica 1994) and promotes 'pushed' output that has been proved to facilitate language acquisition (Swain 1993). Thus, interactionists claim that interactional CF is a basic component of form-focused of the L2 during communicative interaction since it can facilitate learning (Ellis 2001; Ranta and Lyster 2017).

From the perspective of sociocultural theory, learning, based on a social dimension, is considered a collaborative achievement in which CF is embedded where teachers and learners interact to solve linguistic problems. Sociocultural approach focuses on how assistance from a teacher or a more expert peer can help learners exceed their current level of development and perform tasks that they cannot perform on their own. Thus, it is claimed that feedback that is adjusted to students' developmental level in terms of timing and quality has the potential to assist learning (Lantolf et al. 2015).

Over the past four decades, L2 researchers have been examining the role of CF in various second or foreign language contexts and its effects on L2 development. Observational studies examined the frequency of teachers' CF practices, identified the types of oral CF in classrooms, as well as their distribution according to the nature of the error. Researchers identified seven verbal CF types grouped into two main categories (Lyster 1998, 2004): reformulations and prompts, also known as input-providing and output-prompting strategies (Lyster 2004). Reformulations include feedback types that rephrase learners' ill-utterance minus the error such as recasts and explicit corrections. Prompts include strategies that 'push' the students to be more accurate in their output, such as clarification requests, repetitions with rising intonation, metalinguistic feedback, and elicitations. Moreover, descriptive studies attempted to assess feedback effectiveness by measuring learners' immediate responses to CF (uptake).

Another classification of CF types was made based on their explicitness. Explicit feedback refers to the move where it is clear to the learner that an error has been made, while implicit feedback refers to a move where the corrective force is masked because it is

potentially performing another function (Ellis 2021, p. 341). Recasts are often considered implicit by nature (Long 1996, 2007) while output-prompting strategies were considered more explicit (Ellis 2021; Nicholas et al. 2001).

Research on CF provided empirical evidence for the facilitative role of recasts in L2 development (e.g., Braidi 2002; Doughty and Varela 1998; Han 2002; Ishida 2004; Mackey and Philp 1998; Mackey and Goo 2007; McDonough and Mackey 2006; Saito and Lyster 2012). Observational studies demonstrated that, although recasts were the most frequently used CF type in various L2 contexts, they have been associated with low rates of uptake and repair (Havranek 2002; Farrokhi 2007; Mackey et al. 2012; Lyster 1998; Lyster and Ranta 1997). Thus, it was assumed that since recasts led to low rates of uptake, learners might not benefit by the CF they receive in the form of recasts (see Lyster and Ranta 1997; Lyster 1998). However, the use if uptake as a measure of feedback effectiveness generated criticism from several SLA researchers who claim that uptake is unlikely to be an appropriate direct measure of the effectiveness of recasts, as uptake seems to be related to the language classroom setting, the task, and the language instructor (Goo and Mackey 2013).

The mixed findings of empirical studies, along with the two dichotomous directions of CF described above, led to a debate regarding the effectiveness of CF types. Long (1996, 2007) on the one hand argues that recasts are the ideal CF type during form-focused activities due to their implicitness. Recasts, according to Long, provide opportunities for connecting a linguistic form to meaning/function, considered to be required for L2 development (Doughty 2001), in the context of meaningful interaction while maintaining communication. Moreover, recasts provide negative evidence (i.e., indicate the linguistic problem) and positive evidence (i.e., provide the appropriate linguistic form) at the same time, and thus, can facilitate L2 development as they encourage cognitive comparisons between the student's ill-formed and teacher's target-like utterance. At the same time, Long seems to be skeptical about the value of prompts. That is so because they provide only negative evidence on a partially acquired forms and, hence, they cannot promote the acquisition of new forms. Lyster, on the other hand, based on his research findings in French immersion classes (Lyster 1998, 2004), argues that the corrective function of recasts is not always perceived as such by the students due to their implicit nature, while the corrective intention of prompts, based on his findings, seems to be clearer to the students. Moreover, based on the Output Hypothesis (Swain and Lapkin 1995) and the information-processing models aimed to describe L2 learning (e.g., Anderson et al. 2004; Dekeyser 1998), Lyster argues that prompts are more effective in facilitating L2 learning than recasts, as, unlike recasts, prompts require a great deal of attention and use of the short-term memory, while "pushed output" forces learners to move from semantic analysis of the target language to a more syntactic analysis (see also De Boot 1996). Hence, prompts can enhance control over already internalized forms. Thus, Ranta and Lyster (2017) approach prompts as opportunities for the students to practice and thereby proceduralize their knowledge of the rules.

Triggered by this skepticism about recasts, L2 researchers designed studies with experimental or semi-experimental design to compare recasts with prompts. Prompts were often operationalized as all four strategies that comprise this CF categorization, while sometimes comparisons have been made between recasts with only one prompt type such as metalinguistic feedback, clarification requests, etc. Results revealed mixed findings. Most findings suggest that recasts are not as effective as other prompt types (Kartchava and Ammar 2014; Ammar and Spada 2006; Li 2009; Lyster 2004; Sheen 2007; Yang and Lyster 2010), while several studies do not reveal significant differences between the two CF types (Dilans 2010; Loewen and Nabei 2007; Lyster and Izquierdo 2009; McDonough 2007). Nassaji (2009) investigated the effects of recasts and prompts on learning linguistic forms that arose incidentally during dyadic interaction. Results, measured by means of learner-specific preinteraction scenario descriptions and immediate and delayed posterineraction error identification and error correction tasks, revealed that recasts resulted in greater increase in the accuracy of the targeted form compared to prompts. The effectiveness of

recasts was attributed to the explicit form of recasts provided to the learners. Nassaji (2007) also suggested that the degree of CF iexplicitness can vary within CF types because both marked elicitations and marked recasts were associated with high levels of repair compared to the unmarked CF types.

Lyster and Ranta (2013), based on research metanalyses, claimed that the effect sizes of recasts were significantly larger for laboratory studies as shown in Mackey and Goo (2007), which do not resemble real-world settings. In classroom settings medium effect sizes for recasts were found and large effect sizes for prompts (Lyster and Saito 2010). Thus, Lyster and Ranta (2013) suggested that the field needs more empirical evidence from studies carried out in classrooms that will provide valuable directions to L2 teachers through the teacher education.

The diversity of findings on the effectiveness of CF types led researchers to the conclusion that one size does not fit all. This led them to another direction where researchers are called to consider in what ways the effectiveness of different CF types is mediated in different classroom settings and what kind of individual and contextual factors influence its effectiveness (Lyster and Ranta 2013). These factors are related to the type of CF and its formal characteristics, the nature of the target form, CF's focusedness (incidental vs. preselected focus), learners' level of language proficiency, learners' developmental readiness, individual learner differences (e.g., working memory, age, gender, anxiety, aptitude, analytic ability, literacy), the instructional and interactional context (e.g., second vs. foreign language contexts), and the type of the tasks used during oral interaction (Nassaji 2015).

The present semi-experimental study aims to address the call for investigation of CF in various settings by exploring the efficacy of interactional CF in Greek as a second language classroom. Additionally, the study focuses on the possible effect of two variables and their possible interaction, one variable related to the type of CF (recasts vs. metalinguistic feedback) and the other related to individual learner factors, that is the learners' proficiency level (high-beginner students vs. low-beginner students).

1.1. Recasts, Prompts and L2 Development

This section will report research relating to the two CF types relevant to the current study: recasts and metalinguistic feedback. To date, nine studies were identified to compare the effect of recasts and metalinguistic feedback on L2 development. Some of them aimed also to examine their possible interaction with other factors such as the CF target structures, working memory capacity and learners' proficiency as well as their effects on different types of knowledge. Four studies attempted to investigate the effects of the two CF types using experimental procedures (Carroll and Swain 1993; Kim and Mathes 2001; Li 2009, 2013) while the rest were quasi-experimental, that is they took place in intact classrooms (Goo 2012; Ellis et al. 2006; Ellis 2007; Loewen and Nabei 2007; Sheen 2007).

Carrol and Swain 1993 conducted a study with 100 Spanish adult low intermediate level ESL learners. The target structure was dative verbs. Students participated in an experiment in the context of dyadic interaction that consisted of five groups: (a) explicit metalinguistic feedback, (b) explicit rejection, (c) implicit recasts, (d) implicit metalinguistic feedback, and (e) control group. Results revealed that while all groups outperformed the control group, the group that received metalinguistic feedback outperformed all the other groups. Kim and Mathes (2001) replicated the study by Carroll and Swain (1993). Participants were 20 Korean adult ESL learners who received explicit metalinguistic feedback and recasts in two sessions one week apart from the other. Results showed no significant gains from pretest to posttest in the two groups.

Li (2009) examined the effects of recasts and metalinguistic feedback on the Chinese classifiers among two different proficiency levels. The sample consisted of 23 students of Chinese as a foreign language in the U.S.A. Students were randomly assigned in two experimental conditions in the context of dyadic interaction, where they received metalinguistic feedback or recasts while participating in two communicative tasks. The effectiveness of recasts was measured based on a pretest-posttest-delayed posttest that consisted of the

description of flashcards and on learners' uptake. It was found that, overall, the effects of metalinguistic feedback were greater on the acquisition of the target structure. The effects of the CF on the two different proficiency levels are described in the next section (see Section 1.2). Li (2013) designed an experimental study to investigate the interaction between the effects of two CF types, recasts, and metalinguistic feedback, and two aptitude components, language analytic ability and working memory, on the acquisition of the Chinese classifiers. Seventy-eight students assigned to one of the three conditions: implicit, explicit, and control and participated in a picture description and a spot the difference production tasks. Results revealed that the metalinguistic feedback group outperformed the recast group. Furthermore, language analytic ability was predictive of the effects of recasts and working memory mediated the effects of metalinguistic feedback.

Goo (2012) examined the relative effectiveness of the two strategies and the impact of working memory capacity on their efficacy in the context of EFL in Korea. Fifty-four participants divided into two experimental groups participated in two information gap activities focused on the English 'that-trace' filter. Results demonstrated no statistically significant differences between the two groups. The results were attributed to the fact that the study was design to prevent modified output. Moreover, working memory capacity mediated the effects of recasts but not the effects of metalinguistic feedback.

Ellis et al. (2006) investigated the effects of metalinguistic explanations and recasts on the acquisition of the regular past tense (-ed) and their impact on different kinds of knowledge (i.e., implicit, explicit, and metalinguistic knowledge). The study was semi-experimental with a pretest-treatment-posttest-delayed posttest design. Three classes of thirty-four lower intermediate students in total participated. Two classes participated in two instructional tasks and received either recasts or metalinguistic explanation, while one class did not complete the tasks and did not receive any CF. Students participated in two different half-hour communicative tasks that included narration. The effectiveness of CF was assessed on an oral imitation test aimed to measure students' implicit knowledge; a grammaticality judgment test, aimed to measure students' explicit knowledge; and a test of metalinguistic knowledge. Results revealed gains only between the pretest and the delayed posttests. Moreover, the group that received metalinguistic explanations outperformed the recasts group in the delayed imitation and grammaticality judgment delayed posttests. Findings suggest that metalinguistic explanation was positively correlated to students' levels of implicit and explicit knowledge.

Ellis (2007) investigated the effects of metalinguistic feedback and recasts on the acquisition of two different target strictures, the regular past tense (-ed) and comparative '-er'. Research took place in the same context with the same students that participated in Ellis et al. (2006) described above. This study used the methodology described in Ellis et al. (2006) plus two communicative tasks aimed to elicit the comparative '-er'. Results revealed minimum effects for recasts on the acquisition of both target structures. Metalinguistic explanation outperformed the recast group on the immediate test on the comparative '-er' and on the delayed test on the past tense. The findings suggest that the effects of CF vary according to the target structure.

Loewen and Nabei (2007) designed a semi-experimental study with a pretest-treatment-posttest design in the context of EFL in Japan, where they investigated the impact of CF on question formation. Sixty-six students were placed in groups of four and participated in meaning-focus activities that lasted for half an hour. Each group received one of the four treatment conditions: recasts, metalinguistic feedback, clarification requests, and no feedback. The effectiveness of CF was measured with one timed and one untimed grammaticality judgment task, as well as with an oral production test. Results showed no significant increase in scores of the untimed grammaticality judgment test. CF groups significantly outperformed the control group in the timed grammaticality judgment test, but no significant differences were found among the different CF treatments.

Sheen (2007) also conducted a semi-experimental study with pretest-treatment-posttest-delayed posttest design to explore the effects of metalinguistic corrections and recasts on

the acquisition of the English article. Participants were six intact classes consisted of 99 intermediate level students from various backgrounds. Three groups were formed where the students participated in two narrative tasks in two treatment sessions. A control group was also included in the study. Three tests were administered to measure CF feedback effects: a speeded dictation test, a writing test, and an error correction test. Results showed that the metalinguistic group significantly outperformed the recast and the control group, while recasts did not outperform the control group.

As far as recasts are concerned, experimental and observational studies focused on the factors that mediate their effectiveness revealed that several characteristics of recasts are more likely to assist L2 development. Such characteristics are intonation, length, and the number of changes. Thus, findings suggest that recasts can facilitate learning when they are short, when they include one or two corrective changes and when are delivered with emphatic intonation. Moreover, intensive recasts provided in preselected forms are associated with L2 development. Hence, researchers argue that perceptual salience may affect the noticeability of recasts (Chaudron 1977; Doughty and Varela 1998; Doughty 2001; Egi 2007; Ellis and Sheen 2006; Han 2002; Han and Kim 2008; Leeman 2003; Loewen 2004; Loewen and Philp 2006; Nassaji 2007; Sheen 2006). Nassaji (2007, 2015) conceptualized a continuum of implicit–explicit recasts suggesting that the degree of explicitness may vary. Another factor that proved to mediate the efficacy of recasts is learners' developmental readiness and proficiency (e.g., Ammar and Spada 2006; Mackey and Philp 1998), which will be discussed in the next section (see Section 1.2). Finally, contextual variables found to influence the explicitness and implicitness of correction. These factors are related to the instructional context (e.g., second language instruction vs. immersion classes), as well as to the orientation of the classes (form-oriented vs. meaning- oriented) (Lyster and Mori 2006; Nassaji 2015).

Overall, the findings of studies focused on metalinguistic feedback and recasts are mixed, while the factors that mediate their effectiveness vary. Moreover, the studies mentioned in this section are not always comparable, as the implementation of CF types varies across different studies. For example, recasts, which have received the most interest form of CF research, were delivered in a variety of ways in the research: partial, full, with or without emphatic intonation. At the same time, metalinguistic feedback in most of the studies was operationalized as comments, information or questions related to the students' ill-formed utterances, while Sheen (2007) uses the term metalinguistic connections as "a teacher provision of the correct form following an error, together with metalinguistic information" (Sheen 2007, p. 307). The studies also differ in terms of the methods of data collection reported in each study (e.g., story-telling, picture description, decision-making), the duration of the treatment sessions, and the tests used to assess the efficacy of CF each time. What is more, the number of participants varies in each study while the number of participants in the semi-experimental classes of Ellis et al. (2006), Ellis (2007), Loewen and Nabei (2007), and Li (2009) is significantly small to be representative. Furthermore, some research designs do not include a control group (e.g., Kim and Mathes 2001; Li 2009), while in some cases control groups do not participate in the treatments at all (e.g., Sheen 2007).

1.2. Students' Proficiency

Students' proficiency and developmental readiness were found to be important factors that affect the efficacy of CF (Ammar and Spada 2006; Mackey and Philp 1998; Li 2009; 2013; Li et al. 2016; Li 2018; Philp 2003; Trofimovich et al. 2007). Mackey and Philp (1998) conducted an experimental study to examine the effects of interactionally modified input and intensive recasts on the acquisition of question formation. The study also examined the impact of recasts on learners at high and low developmental levels. The results showed that learners at higher developmental levels of the target structure showed a greater increase in production of more advanced morphosyntactic structures, suggesting that the learners who are developmentally ready are more likely to internalize corrective recasts when it comes to advanced structures. Ammar and Spada (2006) investigated the differential effects of

prompts and recasts on the development of third-person possessive determiners in English as an L2. The study examined the effects of the CF types on the learners' performance based on their proficiency on the specific target in pretests. It was found that prompts outperformed recasts and that higher-level learners benefited equally from prompts and recasts, while lower-level learners benefited more from prompts. Philp (2003) examined the impact of recasts on ESL question formation during dyadic interaction. Learners were assigned in three groups, high, intermediate, and low, according to their developmental level regarding the target structure. Results revealed that the high and intermediate groups were significantly more accurate on recall of recasts than the low group. Findings suggest that recasts on question forms may be effectively used by learners when their developmental level and CF correspond.

The study of Li (2009) described in the preceding section (see Section 1.1) also investigated the effects of metalinguistic feedback and recasts on two different proficiency levels, that is, on second-year and fourth-year students. It was found that metalinguistic feedback was more beneficial to second-year students, while no significant difference was found between the effectiveness of the two CF types for the fourth year students. Li (2010) using the sample methodology described in Li (2013) (see Section 1.1) also investigated the interaction of two CF types, recasts and metalinguistic feedback, and learners' proficiency on the acquisition of two target structures, Chinese classifiers, and the perfective '-le'. Students' proficiency level was measured based on students' performance on a standardized proficiency test. Results revealed that students from both proficiency levels (i.e., high-proficiency and low-proficiency) benefited from the CF they received. Overall, metalinguistic feedback showed larger effects than recasts at the low-proficiency level, whereas high-proficiency learners benefited equally from the two types of CF. It was also found that the two CF types had a different effect on the two target structures.

Li (2018) investigated the effects of recasts and prompts on short-term learning regarding learner level, according to the pretest performances, language anxiety, and orientation to correction. It was found that learners that received recasts benefited from the treatment regardless of the three learner factors. Students in the prompt group who benefited from treatment had low level of anxiety and demonstrated a high level of orientation to correction. Findings suggest that recasts in certain classroom contexts can be more advantageous.

In conclusion, students' proficiency or developmental readiness is predictive of the effects of the CF. Researchers so far investigated learners' proficiency based on the performance on a pretest regarding specific target structures (Ammar and Spada 2006; Li 2018; Mackey and Philp 1998; Philp 2003), on their enrollment status (Li 2009), and on their general language proficiency based on a standardized test (Li 2013). The current study aims to introduce another variable in CF research, that is, students' proficiency level (i.e., low- beginner students vs. high-beginner students).

1.3. Corrective Feedback and Linguistic Target

Another important variable that is related to the effectiveness of the CF strategies, is the linguistic target structure (e.g., Ammar and Spada 2006; Dilans 2010; Ellis 2007; Guchte et al. 2015; Li 2013; Yang and Lyster 2010; Yilmaz 2012). As far as the linguistic domain is concerned, Lyster (1998), Mackey et al. (2000), and Sheen (2006) found recasts to be more effective when they target phonological errors compared to morphosyntactic forms.

It has been suggested that the effectiveness of CF depends on the saliency of the target structure. Basturkmen and Fu (2021) use the term *salient structure* to refer to "a structure that can easily be heard or perceived in L2 input, conveys a clear one-to-one form-meaning mapping, or involves easy rule explanations" while they define *non-salient structure* as "a structure that can only be heard or noticed in L2 input with difficulty, conveys an opaque form-meaning mapping, or involves complex rules explanations" (Basturkmen and Fu 2021, p. 376).

Yang and Lyster (2010) compared the effects of prompts and recasts on the acquisition of the regular English past forms that are associated with low saliency, and the irregular past forms which are associated with high saliency (Dekeyser 1998). Results showed that regular past tense forms were more amenable to prompts than recasts, while regular past tense forms were amenable to both recasts and prompts. The effectiveness of prompts was attributed to the negative evidence afforded by prompts but not by recasts, suggesting that negative evidence and self-repair could possibly increase control over rule-based forms. On the other hand, drawing on Skehan's model (1998) of a dual-mode system, Yang and Lyster assume that positive evidence provided by recasts can assist students gain control over item-based forms stored in the exemplar-based system. Moreover, the results suggest that CF is effective when students already have declarative knowledge of the target forms.

Ellis (2007) compared the effects of recasts and metalinguistic feedback on two structures that differ in terms of learning difficulty, the English past tense '- ed' and the comparative '-er'. Based on the criteria set for this study, Ellis posed a greater learning burden on the comparative. Results revealed that recasts had moderate effect on both structures while metalinguistic feedback had a significant effect on both target structures and overall metalinguistic feedback had a greater effect on the comparative. The results suggest that the nature of the CF and the target structure can mediate the effects of interactional feedback.

Li (2013) found that recasts were more useful to low-level learners in the learning of the Chinese classifiers, a salient structure, and less beneficial for the perfective -le, a non-salient structure. Metalinguistic correction appeared effective regardless of the target structure and learners' proficiency. Overall, results showed that the effects of the two CF types were mediated by learners' proficiency and the linguistic target.

Two studies focused on the effects of CF on new linguistic features. Yilmaz (2012), when compared the effects of implicit and explicit feedback on two new forms, namely the plural morpheme, a salient form, and the locative morpheme, a non-salient form, found no interaction between salience and the CF types. Similarly, Guchte et al. (2015) in their research in the context of teaching German as a foreign language found that recasts were more effective when targeted a salient structure (i.e., comparatives), compared to a non-salient structure (i.e., dative), based on students' written accuracy. Prompts on the other hand, showed positive effects on the acquisition of both structures.

Nassaji (2019) examined the differential effects of recasts and a prompt (i.e., clarification requests) with no additional explicit instruction on English relative clauses, a structure that is considered to be complex. Recasts were full and without additional stress. Results, as measured by a pretest and immediate and delayed posttests, revealed the following: (a) recasts outperformed the control group in the immediate and the delayed posttest, (b) recasts outperformed the prompt group in immediate posttests, (c) no significant difference between the prompts and the control group were found in the immediate and the delayed posttest. The findings revealed positive effects for implicit forms of recasts on a complex target structure that students had not as much declarative knowledge compared to the structures used in the previous studies mention above. As far as students' proficiency is concerned, findings showed that high-proficiency learners benefited significantly more from recasts than the low-proficiency learners, while high-level learners who received recasts outperformed the high-proficiency learners that received prompts. The findings suggest that language proficiency may be an important factor in learning from implicit feedback, while it does not mediate the effects of explicit CF to the same extent.

In conclusion, it seems that the effectiveness of CF is a complex phenomenon that can be mediated by various factors such as learners' previous knowledge, learners' developmental readiness regarding a linguistic feature, the type of CF and the type of linguistic error. Thus, more research is needed to explore the effects of the possible interactions of these factors. This study aimed to explore the possible interaction between recasts, metalinguistic feedback, and learners' proficiency, as well as their effect on students' explicit knowledge regarding the Greek past perfective in the context of form-focused instruction.

1.4. The Current Study

The current study investigates oral CF in the context of teaching Greek as an L2 in a classroom context. The study is a response to the call spread by Lyster and Ranta (2013) to conduct research in oral CF and the factors that mediate its effectiveness in various settings. The study was conducted in intact classes intending to resemble as much as possible the classroom environments (Section 2.1 presents the context of study in detail) and therefore, hopefully, the findings will be of practical significance to teachers. Moreover, the considerations of Li's (2018) critical review of CF studies were taken into account for the design of the research. This study constitutes the first study to explore the effects of oral CF on the acquisition of a grammatical feature of Greek as an L2 in adult classes. The target structure of this study is the morphology of past perfective that is an important aspect of Greek as an L2 as it has proved to be a grammatical feature that causes difficulties to learners (Section 2.3). The research questions addressed in this study are the following:

1.   Does interactional CF in the form of recasts and metalinguistic feedback affect L2 learners' explicit knowledge development of the Greek perfective past tense morphology?
2.   What is the relationship between the effectiveness of CF type and learners' proficiency?
3.   Do recast and metalinguistic feedback have differential effects on L2 learners' explicit knowledge?
4.   Does the efficacy of recasts and metalinguistic feedback on the use of the perfective past tense morphology relate to learners' proficiency?

2. Materials and Methods

A quasi-experimental study with pretest- treatment-posttest design was selected to answer the research questions, as it combines the advantages of classroom research and experimental research (Cohen et al. 2011). That is, the research takes place in a classroom context with intact classes which resemble the context in which the teaching procedures normally take place. At the same time the researcher has a greater control over the independent variables such as learners' proficiency and the CF conditions. Learners received feedback while interacting with the researcher and their peers. The grammatical target structure was the Greek perfective past tense. The effectiveness of the two CF feedback types was assessed on an untimed grammaticality judgment (GJT) test that was administrated prior and after the treatment.

2.1. Participants and Instructional Context

The study took place at the Modern Greek Language Teaching Center (https://en.greekcourses.uoa.gr/ accessed on 17 September 2021) of the University of Athens between the academic years 2016–2017 and 2017–2018. The institution offers Greek language programs for all proficiency levels (A1, A2, B1, B2, C1, C2) following the Common European Framework of Reference for Languages (Council of Europe 2001) throughout the academic year. The courses offered are based on a communicative curriculum. The participants at the time of the study were attending an 8-month intensive Beginners' (A1-A2) course. Learners attended 3-h classes every day that took place from October until May. Learners start this course having limited or zero knowledge of the L2. At the end of the course the students are expected to complete the A2 level. The study took place in each class 4 to 5 months after the beginning of the course, right after the end of the instruction of the perfective past tense. Ten intact classes participated. Each class was randomly assigned to a treatment condition (i.e., recasts, metalinguistic feedback, or control). Participants consisted of 86 adult beginner learners, 36 men and 50 women and a researcher who served as a teacher (first author). Participants were from 30 different countries with various L1: (Arabic $n = 27$), Russian ($n = 16$), English ($n = 6$), Chinese ($n = 5$), Spanish ($n = 5$), Serbian ($n = 4$), Albanian ($n = 3$), Romanian ($n = 3$), Georgian ($n = 3$), Ukrainian ($n = 3$), Bulgarian ($n = 2$), French ($n = 1$), Persian ($n = 1$), Belarusian ($n = 1$), German ($n = 1$), Turkish ($n = 1$), Latvian ($n = 1$), Armenian ($n = 1$), Hungarian ($n = 1$), and Tajik ($n = 1$).

The researcher is also a qualified teacher with an MA degree in Greek as a second/foreign language and had four years of experience in teaching Greek as an L2 when the research took place.

2.2. Feedback Conditions

Recasts were operationalized as teacher's reformulations, partial or full (Sheen 2007), of the students' ill-formed utterances, as in (1) and (2). In the first example, learner's utterance contains an erroneous form of the perfective past simple tense. More specifically, the learner used the wrong perfective past stem of the verb 'pay'. The researcher provides a partial recast and the learner responds by incorporating researcher's feedback in a larger utterance. In the second example, the learner fails to correctly produce the past tense of the verb ''take''. The researcher provides CF in the form of a full recast following the learner's erroneous utterance. The learner continued the narration of the story.

(1)
L: Όταν πλήρησε*... [error: stem]
"When he paid..".*
R: Πλήρωσε. [CF: recast]
"Paid".
L: Όταν πλήρωσε το ταξί, το πορτοφόλι του έπεσε στο πάτωμα.
[uptake: repair-incorporation]
"When he paid for the taxi, his wallet fell on the floor".

(2)
L: Μετά πάρε* τη σκάλα. [error: stem]
''Then, he took* the ladder''
R: Μετά πήρε τη σκάλα. [CF: recast]
''Then, he took the ladder
L: Και έβαλε κοντά από το τοίχος*. [topic continuation]
'And he put it near the wall"

Metalinguistic feedback was operationalized as teacher's comments questions or metalinguistic information related to the well-formedness of the student's utterance without explicitly providing the correct form (Nassaji 2015). Metalinguistic feedback could be a comment about language rules, questions about the grammaticality of student's utterance, or a signal about the location of the error or the nature of the error. In the example (3) the learner's utterance contains an error, as the ending of the verb does not agree with the subject. The researcher provides feedback using a comment and a question to elicit the appropriate form. The student responds and corrects him/herself.

(3)
L: Ο Κώστας βγήκε στο κλαμπ και χόρεψα. [error: person]
"Kostas went out to the club and I danced*".
R: **Εγώ** χόρεψα. Αυτός . . . .; [Metalinguistic feedback: comment and question]
"**I** danced. He . . . ?"
L: Χόρεψε. [uptake: self-repair]
"He danced"

As for the control group, learners were not provided feedback on the target form during the form-focused activities. Instead, the researcher provided feedback on content and assisted students sustain communication during the practice of tasks.

2.3. Target Structure

The target structure selected for the study was the Greek past perfective active voice verb morphology[1] which is known to cause errors even in advanced level of proficiency (Clahsen et al. 2010). Verbs in Modern Greek are morphologically marked for aspect, tense, voice, as well as person and number. The formation of the perfective past tense may involve regular or irregular processes. According to Holoton et al. (1997), the regular pattern is

formed with the addition of the -s- affix to the verb imperfective stem and they are called "sigmatic" (from the Greek letter 'sigma') perfective forms. Sigmatic forms may involve predictable phonological alternation of the imperfective stem as in (4) or stem allomorphy as in (5) which leads to two different verb conjugations (see also Ralli 2003). The irregular past perfective tense also involves stem allomorphy as in (6).

(4) graf-o, e-grap-s-a   'I wirte', 'I wrote'
(5) agap(a)-o, agapi-s-a   'I love', 'I loved'
(6) vlep-o, id-a   'I see', 'I saw'

The Greek perfective past tense is a grammatical feature with structural complexity and its knowledge[2] entails several rules that include (a) the changes from the imperfective to the perfective stem, (b) the past tense endings, (c) the stress on the antepenultimate syllable or the syllabic augment 'é-'. Additionally, the fact that mental representations and processing of regular and irregular morphology through two distinct mechanisms, rule-based vs. lexicon, that are processed through declarative and procedural knowledge (see Agathopoulou and Papadopoulou 2009; Lardiere 1998), often causes difficulties for the students in gaining full control of the structure even at the intermediate level. This happens when students produce more regularized than irregularized forms such as eplisa* <έπλυσα> * instead of eplina <έπλυνα>. Thus, it was hypothesized that although learners would have explicit knowledge of the target structure after the instruction, they would make errors in its use during interaction focused on a communicative goal. The purpose of the study is to examine whether CF enables learners to gain greater control over a structure they have partially mastered following the research of (Ellis et al. 2006). Lastly, simple past is a grammatical feature that is easy to elicit through communicative tasks (Doughty and Varela 1998).

2.4. Treatment Instruments

The treatment consisted of three oral activities, two picture description activities and a consensus task. Their implementation lasted approximately 1 h and 40 min in each classroom. The first two activities were taken from a coursebook (see Antoniou et al. 2010, pp. 82–83). The first activity included a picture sequence that described the night of a young man who spent the night in a bar and ended up climbing an old man's window after he lost his wallet and his keys. The students, assigned in groups of 4 of 5, were given 10 min to create a story based on the pictures and to find their own ending. After they prepared the story, they would retell it to the rest of the class. In the end, the learners would vote for the best story ending. The second activity included a picture sequence, where 2 pictures were missing. The story described a man who returned home, found a letter, seemed to be happy, and ended up crying in his bed. The students assigned in the same groups had to create the story based on the picture sequence and fill-in the missing part of the story. Students' oral production in the first two activities was free, as there were no preselected forms that they were supposed to use during interaction. The two tasks lasted approximately 1 h in each class.

The third activity was a consensus task designed for the purpose of this study. The task was designed and implemented according to Ellis (2001) definition of a focused communicative task that can be implemented in the context of form-focused instruction. That is, the task is designed to elicit the production of perfective past preselected structures in the context of communication where the primary focus is on the meaning, while there is an information gap that students must deal with. A consensus task was selected for the purpose of this study as it 'forces' the students to be engaged in the task when their peers are speaking and therefore to attend the interactional feedback procedure. More specifically, the students were asked to solve a mystery where somebody broke into an office during an event and stole the money of a famous person. Assigned in 4 groups of 4 or 5, students were given the dialogues from the interrogation of the four suspects on a piece of paper. Each group was given 7 min to read the dialogue between the policeman and one suspect only. After a few minutes the dialogue was removed and replaced with

a list of 15 verbs that students are told they need to use to re-narrate the story. Learners were given around 10 min to plan the retelling using the third person singular. They were only allowed to write keywords on the paper with the verbs to remind them of the story, but not the verbs in the perfective past tense. After the preparation, all four groups retold their story to their classmates so as for the students to hear all 4 stories. Students were advised to listen carefully to identify the person who lied. They could also ask questions and argue until they find the culprit. During the narration of the story the researcher provided feedback focused on the ill-formed target structures and the content of the story. The average duration of the interaction among the students and the researcher was 40 min.

The task was carefully designed to meet the criteria of validity and reliability (Cohen et al. 2011). Both the vocabulary and grammar introduced in the task were aligned with students' coursebooks and the institution syllabus. The past tense forms used in the tasks were carefully selected to include forms from both conjugations and several irregular verbs. Therefore, the students would produce a representative number of forms that constitute the grammatical phenomenon.

The activities were piloted four times in other classes with the same proficiency level and were modified to prevent intervening variables related to memory limitations or task difficulty, etc.

2.5. Testing Instruments Placement Test

A placement test was utilized to measure learners' proficiency was an independent variable. The term proficiency is operationalized here to describe learners' general proficiency within the beginners' level. The purpose of the test was to divide the learners into low- beginner learners and high- beginner learners. As there was no standardized test at the time of the research for this level in Greek as a second language, the researchers used parts of the examination of the Center for the Greek language (https://www.greek-language.gr/certification/node/143.html, accessed on 19 September 2021), which is the main institution whose mission is to organize examinations for the Greek as a second language and to produce teaching material. The placement test consisted of five parts: reading, listening, writing, use of language and speaking. The use of language was added by the researcher to tap students' knowledge of the grammatical structures taught in beginners' level A1. It included ten multiple choice questions and ten gap filling sentences. The content was based on the topic-related vocabulary, grammar and language functions that were taught until the time of the research. The total score of the placement test was 100. Students who scored between 50–75 were grouped as *low-beginner* students, while those who scored above 75 were grouped as *high-beginner* students. Students who scored below 50 were eliminated from the study as their proficiency did not align with level A1.

2.6. Grammaticality Judgment Test

A pretest and a posttest were administrated before and after the completion of the treatment, to capture students' explicit knowledge development. The GJT is used by researchers to elicit information on students' knowledge over specific morphosyntactic features that would be difficult to be elicited with any other tool, as students tend to avoid the production of linguistic forms if they do not feel comfortable to use them (Schütze 2016). The untimed GJT is used to measure students' explicit knowledge since they are given enough time to draw from their explicit and their metalinguistic knowledge over the rules of a linguistic feature (Loewen 2009). The GJT was chosen for this study, as it has been used in previous studies with similar design, aimed to examine the impact of interactional CF on learners' explicit knowledge (Goo 2012; Ellis et al. 2006; Ellis 2007; Loewen and Nabei 2007; Nassaji 2017; Yilmaz 2012). This GJT was designed for the purposes of this study. It was a pen-and-paper test consisting of 30 sentences and five examples for the students to understand what they were expected to do. Learners were required to indicate whether each sentence was grammatically correct, or deviant. Moreover, learners were

asked to correct the deviant forms. Twenty-four sentences targeted the past tense, while six included other grammatical features and were used as distractors. Out of the twenty-four sentences, twelve were grammatically correct and twelve grammatically incorrect. Each item appeared twice in the test. The erroneous form appeared first, while the correct form appeared later in the test. Each page of the test included five different verbs. Students were told that they were not allowed to turn back to look or change the parts they had already completed. Two versions of the test were created. Each version included the same erroneous and correct items that appeared in sentences with a slightly different context. Students completed both versions of the test, one before and one after the treatment. The introduced past tense items were five irregular and seven regular verbs. Regular verbs included items from both conjugations. The deviant forms introduced in the test were selected as they constitute common mistakes in students' productions. They were deviant in terms of (a) the form of the perfective stem, (b) the past tense endings, (c) the place of the stress, and (d) subject–verb agreement. Table 1 presents the deviant and correct items introduced in the GJT.

Table 1. The items Introduced in the GJT.

Stem	Endings	Place of the Stress	Subject Verb Agreement
ἔριψε-ἔριξε * éripse–érikse	*ἔφυγουν-ἔφυγαν* *éfigan–éfigan	*εχάσαμε-χάσαμε* *exásame–xásame	*ήπιαμε-ήπιαν* *ípiame-ípian
perfective past, 3rd person singular	perfective past, 3rd person plural	perfective past, 2nd person plural	perfective past, 2nd/3rd person plural
to throw	to leave	to lose	to drink
ἔβγασες-ἔβγαλες *évgases-évgales	*φορέσουμε-φορέσαμε* *forsume-forésame	*τρομάξα-τρόμαξα* *tromáksa-trómaksa	κατέβηκα-κατέβηκε *katévika-katévike
perfective past, 2nd person singular	perfective past, 1st person plural	perfective past, 1st person singular	perfective past, 1st/3rd person singular
To take out *χτύπασα-χτύπησα *xtípasa–xípisa	To wear *γέλασει-γέλασε * ɟélasi- ɟélase	To be frighten *κλέψε-έκλεψε *klépse-éklepse	To get down *έπεσε-έπεσα Épes–épesa
perfective past, 1st person singular	perfective past, 3rd person singular	perfective past, 3rd person singular	perfective past, 3rd/1st person singular
To hit	To laugh	To steal	To fall

The tests were given to A1 beginner level classes level prior to the quasi-experimental procedure to pilot the questions and to ensure tests' reliability. The paired samples *t*-test between assessment and reassessment scored indicated no statistically significant difference. Intra class correlation coefficient between initial assessment and reassessment scores was 0.950 (0.88–0.98) ($p < 0.005$) which indicated test–retest reliability. Learners' responses were scored as correct when the students located the error in ungrammatical sentences and corrected it, as well as when they would marked as correct the grammatical sentences.

2.7. Procedures

One week prior to the treatments, the participants signed the consent forms and took the placement test. Additionally, the researcher observed three or four lessons before the instructional treatments took place and the day before the researcher interacted with the students by getting to know each other and working on a GJT. This was a preparation stage for the students to become familiar with the researcher and the testing instrument. The experimental procedure took place in two consecutive days. The first day the students completed the pretest and participated in the picture description activities. The second day the students participated in the consensus task and completed the posttest. The treatment

sessions were audio-recorded. After the treatment, the researcher scored students' tests and filled them in the database.

The instructional treatment was piloted four times to ensure the validity of the procedure. The first pilot study took place in the academic year 2015–2016 and the last one in 2016–2017. The research was completed in 2017–2018. The quasi-experimental procedure took place ten times until the database was completed with enough sample, as suggested by the researchers[3] (e.g., Fraenkel et al. 2011). The grouping took place in the database as shown in Figure 1.

Recast group	Metalinguistic feedback	Control group
30 students	29 students	27 students
15 high-beginners	13 high-beginners	15 high-beginners
15 low-beginners	16 low-beginners	12 low-beginners
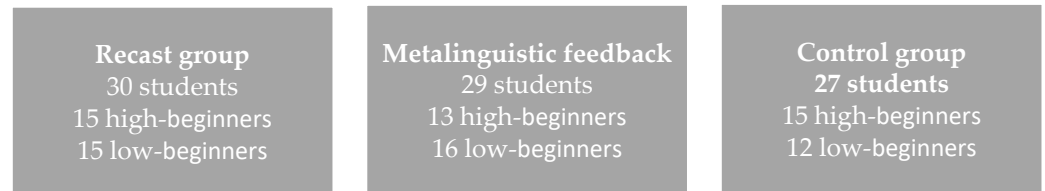
Figure 1. Participants and grouping.

2.8. Analysis

Statistics were calculated using the Statistical Package for the Social Sciences (SPSS) 21.0. Descriptive statistics were calculated for the three groups. A two-way ANOVA was performed to investigate the interaction between the two independent variables, that is proficiency, and CF type. One-way ANOVA was conducted to detect differences between the groups. Bonferroni test was applied for pairwise comparisons. T-tests were performed to detect the gaining scores among the CF groups. All the tests were two-sided and *p*-value < 0.05 was set to indicate statistical significance.

3. Results

3.1. Corrective Feedback Types and Explicit Knowledge Development

Table 2 shows the distribution of error and CF moves during interaction. Most students' errors and CF moves are found in the recast group.

Table 2. Distribution of error and CF moves during interaction.

Group	Errors	Recasts	Metalinguistic Feedback
Recast	229	226	0
Metalinguistic feedback	163	15	157
Control	152	1	0

Table 3 illustrates the descriptive statistics for the students' score on the GJT in each treatment group. One-way ANOVA was conducted in the pretest to make sure that the three groups were comparable in terms of the knowledge of the target-form. The analysis showed no significant difference between the three CF groups, $F_{(2.80)} = 0.62$, $p = 0.540$). The comparison of the means of the posttests revealed statistical significance, $F_{(2.80)} = 5,81$, $p = 0.004$. Pairwise comparisons revealed statistically significant differences between the metalinguistic feedback and the control group ($p = 0.003$).

Table 3. Students' performance in the pretest and the posttest in each treatment group.

		Pretest		Posttest	
Group	*n*	Mean	S.D.	Means	S.D.
Recast	30	16.20	0.42	18.03	0.47
Metalinguistic feedback	29	16.46	0.43	19.33	0.43
Control	27	16.88	0.45	17.24	0.44

3.2. The Relationship between the Effectiveness of CF Type and Learners' Proficiency

Two-way ANOVA was performed to the pretest to examine the relationship of the two independent variables before and after the treatment. Results demonstrated no interaction between the two variables neither before the treatment (F2.80 = 0.272, *p* = 0.762) nor after the treatment (F2.80 = 0.947, *p* = 0.392). The analysis of variance of the two variables revealed no interaction between the two variables (F2.80 = 0.039, *p* = 0.96).

3.3. The Effects of Recasts and Metalinguistic Feedback on L2 Learners' Explicit Knowledge

T-tests were performed to find out if there is a significant difference between the means of the pretests and the posttests in each treatment group. Results revealed significant gains in the groups that received recasts (*p* < 0.005) and metalinguistic feedback (*p* < 0.005), while no statistical significance was found on the performance of the students in the control group (*p* = 0.3394). The percentage of variance of the students' score in each group is illustrated in Figure 2. One-way ANOVA revealed statistically significant differences between the groups (F2.80 = 9.07, *p* < 0.005). Pairwise comparisons demonstrated statistically significant differences between the control group and the group that received recasts (*p* = 0.011) and metalinguistic feedback (*p* < 0.005), respectively, while no statistically significant difference obtained between the group that received recasts and metalinguistic feedback (*p* = 0.700).
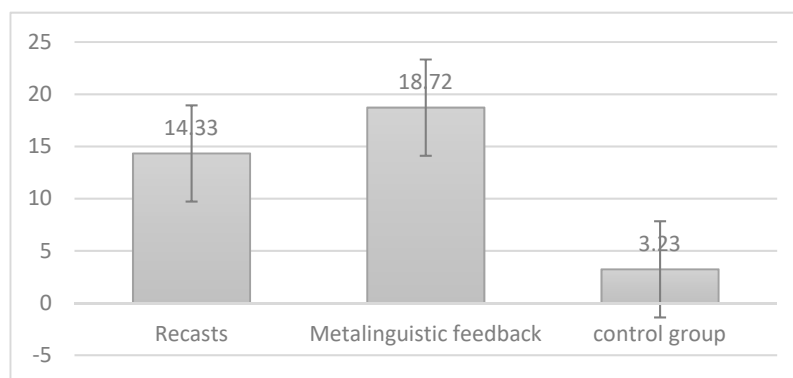

Figure 2. Percentage variance of the gains on students' scores.

3.4. The Effect of Students' Proficiency on the Efficacy of Recasts and Metalinguistic Feedback

The descriptive statistics for the scores of each proficiency group, including group means and standard deviations, are shown in Table 4. One-way ANOVA performed for both students' pretest and posttest scores showed that students' performance in the two proficiency groups differed significantly, F1.80 = 62.2 *p* < 0.005 and F1.80 = 63.7 *p* < 0.005, respectively. T-tests were performed to find out if there is a significant difference between the means of the pretests and the posttests in each proficiency group. With regard to the high-beginner students, results revealed statistically significant differences in the recast (*p* = 0.002) and the metalinguistic feedback group (*p* < 0.005), while no statistically significant differences were found on the performance of the control group (*p* = 0.758). As for the low-beginner learners, results showed also significant gains in the group that received metalinguistic feedback (*p* = 0.005) and recasts (*p* = 0.002), but not in the control group (*p* = 0.43).

Table 4. Students' performance in the pretest and the posttest in each proficiency group.

			Pretest		Posttest	
Proficiency	**Group**	***n***	**Mean**	**S.D.**	**Means**	**S.D.**
	Recasts	15	14.13	2.48	16.13	2.45
Low-beginners	Metalinguistic feedback	16	14.31	2.77	17.06	2.65
	Control	12	15.71	2.79	15.75	2.73
	Recasts	15	18.27	2.40	20.47	2.45
High-beginners	Metalinguistic feedback	13	18.62	1.75	21.62	1.38
	Control	15	18.60	1.29	18.73	1.71

Figure 3 depicts the variance of the percentage of students' score in each proficiency group. As far as the high-beginner students are concerned, one-way ANOVA was performed to detect differences within and between the groups. Results indicated statistical significance ($p < 0.003$). Pairwise comparisons revealed statistically significant differences between the groups of metalinguistic feedback and control group ($p < 0.003$), as well as between the recast group and the control group ($p < 0.023$). No statistically significant difference was found between the groups that received metalinguistic feedback and recasts ($p = 1.00$). As for the low-beginner students, one-way ANOVA revealed statistically significant differences within and between the groups ($p = 0.048$). Pairwise comparisons revealed statistically significant difference only between the metalinguistic feedback group and the control group ($p = 0.045$), while no significance was found between recasts and control group ($p = 0.310$) and between recasts and metalinguistic feedback ($p = 1.000$).
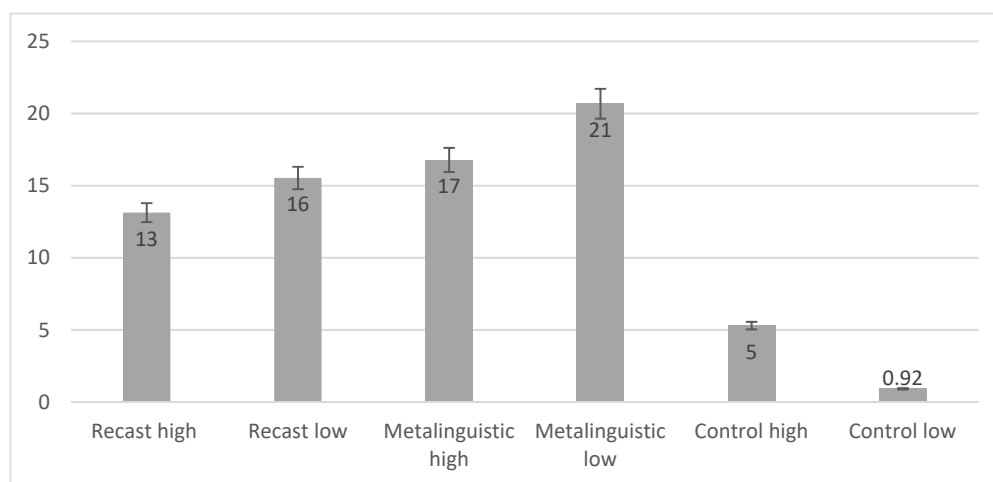

Figure 3. Percent variance of students' scores in each group based on their proficiency.

4. Discussion

The first research question concerned whether CF in the form of recasts and metalinguistic feedback affects students' explicit knowledge regarding the past perfective tense. Results showed that students who participated in form-focused activities, where they received CF, benefited significantly compared to the students who interacted without receiving CF. Findings suggest that CF has an effect on students' explicit knowledge. It is possible that the focused treatment and the intensive feedback provided increased learners' awareness of the grammatical structure. More specifically, it is likely that input enhancement and metalinguistic explanations provided to the students through practice enabled them to notice and process feedback given to the target structures. With respect to the target structure, it seems that the past perfective tense, a relatively complex structure, is amenable to CF when its instruction has preceded. Hence, there is evidence that the students are able to internalize the CF when they have partial knowledge of the target phenomenon.

Students' L1 along with their experience regarding the methods of learning their L1, as well as their literacy, might have affected the efficacy of the CF. As it is described in Section 2.1 learners' L1 vary. In most of participants' L1 (see Section 2.1) person, number, tense, and aspect are morphologically marked. Moreover, the instruction of grammar in languages such as Russian, Arabic, Serbian, or Albanian entails the explicit instruction of grammatical rules while emphasis is given on students' accuracy. Therefore, it is likely that students are "trained" to develop explicit knowledge and analytical awareness of the language, and therefore they were able to increase their cognitive control over the target structure (Bigelow et al. 2006). On the basis of this, one could conclude that the similarities between students' L1 and Greek when it comes to the morphologically markedness in combination to the similar previous experience in language learning and their literacy might facilitated the acquisition of the Greek past perfective.

Findings are in line with the results of previous studies that examined the possible impact of different CF types on the acquisition of grammatical features in various teaching contexts (e.g., Ammar and Spada 2006; Carroll and Swain 1993; Mackey and Goo 2007; Goo 2012; Mackey and Philp 1998; Li 2009, 2013; Li 2018; Yang and Lyster 2010). However, these findings are in contrast with Ellis et al. (2006), Ellis (2007), and Loewen and Nabei (2007) who found no significant differences on the immediate GJT after the treatment test. As Basturkmen and Fu (2021) observe, the effectiveness of CF was moderate in these studies since the participants had good prior knowledge of the target phenomena. Moreover, the methodological design of the present study differs in terms of the sample and the treatment duration. More specifically, the sample in Ellis et al. (2006) and Ellis (2007) consists of a small number of students (*n* = 34), while in this study the sample consists of 86 participants. The number of participants in each treatment group in Ellis et al. (2006) and Ellis (2007) ranges from 10 to 12, which is above the minimum sample range required for the experimental groups (see Fraenkel et al. 2011), while in this study each treatment group included 27–30 students. As for the treatment duration, Loewen and Nabei (2007) reported that their treatment duration was only 30 min, while in this study the treatment lasted approximately for 1h and 40 min. The results are also in line with the principles of cognitive theories (e.g., interaction approach, skill acquisition theory), and sociocultural theory that argue that the CF provided during communicative interaction can influence students' L2 knowledge.

The second research question aimed to examine the possible interaction between the CF types and students' proficiency. Results revealed no interaction. The overall results revealed no difference between the impact of the two CF types on students' explicit knowledge development of the past perfective. However, when we examined the results based on students' proficiency, results showed that the efficacy of the two CF types was mediated by students' proficiency level. Findings suggest that the CF type is not always predictive of the effectiveness of CF, while the effects of CF are associated with learners' proficiency. These results are discussed in detail during the discussion of the third and fourth question's findings.

The third research question concerned whether the two CF types had a differential effect on the development of students' explicit knowledge regarding the past perfective tense. Results demonstrated no significant differences between the two CF types. The findings contrast the results of the previous classroom studies where metalinguistic feedback or prompts found to have more significant effects on the development of the target form compared to recasts (e.g., Kartchava and Ammar 2014; Ammar and Spada 2006; Ellis et al. 2006; Lyster 2004; Sheen 2007; Yang and Lyster 2010). Moreover, findings question the claim that recasts can impact L2 development only in laboratory settings and not in classroom settings (e.g., Lyster and Ranta 2013). The findings of the previous studies were attributed to the implicitness of the recasts as opposed to the explicitness of metalinguistic feedback or other prompts. In fact, it seems that in this study recasts were more salient compared to other studies for three reasons. First, the interactional feedback provided to the students was intensive and aimed at preselected forms. The students participated in

two interactive tasks where they were 'forced' to pay attention to the narrations of their peers and therefore to passively engage into the interactive feedback episodes. Thus, their attention was constantly shifted from the meaning to specific linguistic forms. Moreover, although the formal characteristics of recasts were not decided prior to the study (e.g., partial vs. full recasts), after a closer examination of the treatment transcriptions it was observed that recasts were systematically partial, while often they were repeated or carried emphatic intonation. This was due to the fact that students produced short utterances, while the pace of their speech was slow. Hence, the researcher had the opportunity to provide immediate feedback on specific forms within a short utterance (i.e., partial recast) without interrupting students' production, as shown in (7), which probably made the recasts more salient to the students

(7) L: Ο Γιώργος συναντήσει* τη Σίντι. [error: ending and stress]
George meet Cindy*
T: Συνάντησε; [CF: recast]
Met?
L: Συνάντησε τον Δημήτρη και Σίντι. [uptake: incorporated]
Met Dimitris and Cindy.

Partial recasts and emphatic intonation in previous studies are associated with students' uptake and L2 development (e.g., Egi 2007; Nassaji 2009; Sheen 2007). It is suggested that the length of recasts along with their intensity and focusedness might had contributed to their saliency (see also Nassaji 2017). Findings are also in line with Long's (2007) arguments in favor of recasts, according to whom recasts are ideal during form-focused instruction, as they are unobtrusive and provide both negative and positive evidence. The effectiveness of recasts in this study could also be attributed to the fact that students in the recast group produced much more erroneous utterances (*n* = 229) compared to the group that received prompts (*n* = 163), and therefore they received a greater amount of CF (*n* = 226) compared to the metalinguistic feedback group (*n* = 172). Presumably students with low levels of accuracy in speaking produced more ill-formed utterances compared to the students that received prompts. Since CF was provided during oral interaction, it was not possible to control the number of CF moves. Thus, it is possible that input enhancement provided through recasts led students achieve the same results with the group that received metalinguistic feedback.

Furthermore, the results could be attributed to the instructional settings. Grammar has a special place in teaching Greek as an L2. This is because Greek is a highly inflectional language, thus often grammatical errors might impede communication. Although the courses and instructional material are based on a communicative syllabus, language instruction also includes more analytic teaching approaches that prompt the students to focus on grammatical forms (e.g., grammar tables, intensive use of metalanguage, drills, etc.). Hence, the teaching approach of grammar in this instructional context might relate to the efficacy of the CF during meaningful interaction regardless the type of CF, as students were trained to attend to form during the lessons. Thus, findings could be interpreted using Lyster and Mori's (2006) counterbalance hypothesis, which stated that "instructional activities and interactional feedback that act as counterbalance to the predominant communicative orientation of a given classroom setting will be more facilitative of interlanguage restructuring than instructional activities and interactional feedback that are congruent with the predominant communicative orientation" (Lyster and Mori 2006, p. 294). Lastly, it is worthy to mention that after the treatment some students expressed their enthusiasm to the researcher regarding the consensus task, as the type of the activity was new to them, and they stated that they would like to participate in similar tasks in the future.

The fourth research question concerned the impact of students' proficiency on the effectiveness of the two CF types. Results showed that although high-beginner students benefited from both CF types, low-beginner students benefited substantially only from metalinguistic feedback. Findings are consistent with the previous research focused on students' proficiency where it was found that students' proficiency and prior knowledge of

the target structure might influence the efficacy of CF. Nicholas et al. (2001) and Nassaji (2015) argue that learners need to reach a level of language proficiency to be able to attend linguistic forms during meaning focused interaction. It is possible that high-beginner learners are more likely to notice and process the corrective force of recasts as they have greater control over the target structures, hence to and therefore, they have more free cognitive space to engage in cognitive comparisons between their utterance and teachers' recasts (Li 2010). At the same time, findings suggest that low-beginner students need more transparent CF types to engage in the process that CF might enable. It is also possible that low-beginner learners benefited more from metalinguistic feedback as they were pushed to retrieve target forms already existed in their long-term memory or the intensive repetition of the rules and metalinguistic comments helped them develop their knowledge and gain grader control on the past perfective.

5. Conclusions and Implications

This section summarizes the findings and contributions made. To the best of our knowledge this is the first study that examines the effects of interactional feedback in Greek as an L2 in adult language education. The findings of this study suggest that CF might have an important role to play also in the instructional context of Greek as an L2. The factors that seem to mediate the efficacy of CF are related to students' proficiency. Based on contextual environment and treatment conditions, it has been also assumed that the efficacy can be related to the formal characteristics of the recasts, the focusedness of feedback during from-focus instruction, and the instructional context of Greek as an L2. Thus, the results confirm that corrective feedback constitutes a 'complex phenomenon' as argued by Chaudron (1977).

Furthermore, some pedagogical implications are suggested. CF has proved to assist knowledge development when occurred in form-focused activities. Results highlight the need for form-focused tasks aiming a preselected form to be introduced into the instructional materials of Greek as an L2, as they promote opportunities for CF in meaningful communication and L2 development[4]. Additionally, teachers should not be afraid to correct students' errors, since there is empirical evidence that CF can promote L2 development (Ellis 2009). CF practices could be established in second language classrooms where students are trained by their teachers to benefit from it (see Kartchava 2019) in the context of teacher-student collaborative learning. Moreover, although we cannot prescribe teachers with the 'best' CF type of CF-this is not the question anymore in CF research either- teachers of Greek as an L2 are encouraged to use both CF types. It is important though for the teachers to make sure that their corrective intension is well perceived by the students. Therefore, teachers need to make sure that the CF types used in their classrooms are salient. More specifically, teachers are suggested to use partial recasts, emphatic stress, and make salient metalinguistic comments to their students. Lastly, teachers need to consider the individual learners' characteristics when making decision on their teaching practices such as their proficiency and developmental readiness and needs (Ellis 2009).

As far as the theoretical implications of the study are concerned, this study provides support for the interaction approach (Mackey and Gass 2015) and the skill-acquisition theory (Dekeyser 2015), as 'interaction as focus on form instruction' and 'interaction as practice' in this study led the students develop their explicit knowledge. Moreover, the findings regarding the impact of learners' proficiency on the effectiveness of CF provide evidence for the views of Sociocultural theory (Lantolf et al. 2015) regarding the assistance that learners need to perform language functions they are not able to perform independently. Findings regarding the effects of students' proficiency on the effectiveness of the CF types are also in line with Pienemanns' Teachability hypothesis (Pienemann and Lenzing 2015) according to whom L2 instruction can be facilitative for learners when the developmental level is close to the developmental stage of the linguistic structure.

This study was designed to contribute to the growing body of research regarding the efficacy of interactional feedback in less commonly taught second languages. It consists

also one of the first studies that include students' proficiency based on students' scores on a test within one level (see also Li et al. 2016). Furthermore, this semi-experimental study took place in students' intact classrooms of Greek as a second language. Thus, the findings could be transferred in similar classrooms situations, unlike the laboratory studies that explored the impact of metalinguistic feedback and recasts so far (see Section 1.2). What is more, the sample of the study was not randomly assigned, at least in terms of students' proficiency, which reinforces the reliability and validity of the results.

Generalizations from this study can be made bearing in mind that the results may have relevance for intensive classroom feedback. More research is needed to explore the effects of extensive classroom feedback, as well as the effects of CF on different linguistic structures, more or less complex compared to the target structure examined in this study. In addition, further research on bigger sample size is needed to confirm the results regarding the possible interaction between the CF type and students' proficiency.

Lastly, although interactional feedback has attracted the interest of second language pedagogy and assessment, its importance does not seem to be acknowledged by the teacher education guides for Greek as an L2 (see Ioannou 2020). Thus, we suggest that CF is introduced in teacher education programs and in teacher-education literature. Teachers of Greek should be informed about the centrality of its role in L2 classrooms and the criteria they need to take into consideration when implementing their corrective practices, based on empirical evidence, especially when teachers assess their students' language competencies. This can be achieved through pre- and in-service training of teachers, an important aspect of teacher education that will also help raise teachers' levels of assessment literacy (Tsagari 2020; Vogt et al. 2020).

Hopefully the current study design and findings could mark the beginning of research of CF in the instructional setting of Greek as an L2, which has been an uncharted territory for a long time. More research is needed to investigate the efficacy of CF on other aspects of Greek language and to provide evidence for the influence of feedback on other types of knowledge using various testing methodologies that include both oral and written testing procedures.

Notes

[1] Greek is a highly inflected language. Verbs are formed by the combination of the stem and an inflectional ending. Verbs in Modern Greek are morphologically marked for aspect, tense, voice, as well as person and number (Holoton et al. 1997).

[2] For the Greek past tense morphology see (Holoton et al. 1997; Ralli 2005). For the instruction of the simple past tense rules in Greek as L2 for beginners see the beginners coursebooks used by the teachers of the Modern Greek language teaching center (Simopoulos et al. 2010; Gareli et al. 2012).

[3]   Fraenkel et al. (2011) suggest that the minimum sample of an experimental study should range from 15 to 30 participants in each experimental group.

[4]   At this point we would like to mention that during the process of designing the study it was impossible to find tasks in the instructional material available for teaching Greek as an L2, when the research was conducted (e.g., Simopoulos et al. 2010; Gareli et al. 2012).

References

Agathopoulou, Eleni, and Despina Papadopoulou. 2009. Morphological Dissociations in the L2 acquisition of an inflectionally rich language. In *EUROSLA Yearbook*. Edited by Leah Roberts, Georges Daniel Véronique, Anna Nilsson and Marion Tellier. Amsterdam: John Benjamins, vol. 9, pp. 107–31. [CrossRef]

Ammar, Ahlem, and Nina Spada. 2006. One size fits all? Recasts, prompts, and L2 learning. *Studies in Second Language Acquisition* 28: 543–74. [CrossRef]

Anderson, John, R. Byrne, D. Michael, Douglass Scott, Lebiere Christian, and Yulin Qin. 2004. An integrated theory of the mind. *Psychological Review* 111: 1036–50. [CrossRef] [PubMed]

Antoniou, Maria, Maria Galazoula, Stavroula Dimitrakou, and Anastasia Maggana. 2010. *Μαθαίνουμε ελληνικά ακόμα καλύτερα*. Athens: Kedros.

Asghar, Amanda. 2010. Reciprocal peer coaching and its use as a formative assessment strategy for first-year students. *Assessment & Evaluation in Higher Education* 35: 403–17. [CrossRef]

Basturkmen, Helen, and Menxia Fu. 2021. Corrective feedback and the development of second language grammar. In *The Cambridge Handbook of Corrective Feedback in Second Language Learning and Teaching*. Edited by Hossein Nassaji and Eva Kartchava. Cambridge: Cambridge University Press, pp. 367–86. [CrossRef]

Bigelow, Martha, Robert Delmas, Kit Hansen, and Elaine Tarone. 2006. Literacy and the Processing of Oral Recasts in SLA. *TESOL Quarterly* 40: 665–89. [CrossRef]

Black, Paul, and Wiliam Dylan. 1998. Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice* 5: 7–74. [CrossRef]

Braidi, Susan. 2002. Reexamining the role of recasts in native-speaker/nonnative-speaker interactions. *Language Learning* 52: 1–42. [CrossRef]

Brookhart, Susan M., Connie M. Moss, and Beverly A. Long. 2010. Teacher inquiry into formative assessment practices in remedial reading classrooms. *Assessment in Education: Principles, Policy & Practice* 17: 41–58. [CrossRef]

Carroll, Susanne, and Merrill Swain. 1993. Explicit and implicit negative feedback: An empirical study of the learning of linguistic generalizations. *Studies in Second Language Acquisition* 15: 357–86. [CrossRef]

Chaudron, Craig. 1977. A descriptive model of discourse in the corrective treatment of learners' errors. *Language Learning* 27: 29–46. [CrossRef]

Chaudron, Craig. 1988. *Second Language Classrooms: Research on Teaching and Learning*. Cambridge: Cambridge University Press.

Clahsen, Harald, Maria Martzoukou, and Stavroula Stavrakaki. 2010. The perfective past pense in Greek as a second language. *Second Language Research* 26: 501–25. [CrossRef]

Cohen, Louis, Manion Lawrence, and Morrison Keith. 2011. *Research Methods in Education*, 7th ed. Oxon: Routledge.

Cook, Vivian. 1985. Chomsky's universal grammar and second language learning. *Applied Linguistics* 6: 2–18. [CrossRef]

Council of Europe. 2001. *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. Cambridge: Cambridge University Press.

De Boot, Kees. 1996. The psycholinguistics of the output hypothesis. *Language Leaning* 46: 529–55. [CrossRef]

Dekeyser, Robert. 1998. Beyond focus on form: Cognitive perspectives on learning and practicing second language grammar. In *Focus on Form in Classoom Second Language Acquisition*. Edited by Catherine Doughty and Jessica Williams. Cambridge: Cambridge University Press, pp. 42–63.

Dekeyser, Robert. 2015. Skill acquisition theory. In *Theories in Second Language Acquisition*. Edited by Bill VanPatten and Jessica Williams. New York and London: Routledge, pp. 96–112.

Dilans, Gatis. 2010. Corrective feedback and L2 vocabulary development: Prompts and recasts in the adult ESL Classroom. *Canadian Modern Language Review* 66: 787–816. [CrossRef]

Doughty, Catherine. 2001. Cognitive underpinnings of focus on form. In *Cognition and Second Language Instruction*. Edited by Peter Robinson. Cambridge: Cambridge University Press, pp. 206–57.

Doughty, Catherine, and Elizabeth Varela. 1998. Communicative focus on form. In *Focus on Form in Classroom Second Language Acquisition*. Edited by Catherine Doughty and Jessica Williams. Cambridge: Cambridge University Press, pp. 114–38.

Egi, Takako. 2007. Interpreting recasts as linguistic evidence: The roles of linguistic target, length, and degree of change. *Studies in Second Language Acquisition* 29: 511–37. [CrossRef]

Ellis, Rod. 2001. Introduction: Investigating form-focused production. *Language Learning* 51: 1–46. [CrossRef]

Ellis, Rod. 2007. The differential effects of corrective feedback on two grammatical structures. In *Conversational Interaction in Second Language Acquisition: A Collection of Empirical Studies*. Edited by Alison Mackey. Oxford: Oxford University Press, pp. 339–60.

Ellis, Rod. 2009. Corrective feedback and teacher development. *L2 Journal* 1: 3–18. [CrossRef]

Ellis, Rod. 2017. Oral corrective feedback in L2 classrooms: What we know so far. In *Corrective Feedback in Second Language Teaching and Learning*. Edited by Hossein Nassaji and Eva Kartchava. New York: Routledge, pp. 3–18.

Ellis, Rod. 2021. Explicit and implicit oral corrective feedback. In *The Cambridge Handbook of Corrective Feedback in Second Language Learning and Teaching*. Edited by Hossein Nassaji and Eva Kartchava. Cambridge: Cambridge University Press, pp. 341–64. [CrossRef]

Ellis, Rod, and Younghee Sheen. 2006. Re-examining the role of recasts in L2 acquisition. *Studies in Second Language Acquisition* 28: 575–600. [CrossRef]

Ellis, Rod, Shawn Loewen, and Rosemary Erlam. 2006. Implicit and explicit corrective feedback and the acquisition of L2 grammar. *Studies in Second Language Acquisition* 28: 339–68. [CrossRef]

Farrokhi, F. 2007. Teachers' stated beliefs about corrective feedback in relation to their practices in EFL classes. *Research on Foreign Languages Journal of Faculty of Letters and Humanities* 49: 91–131.

Fraenkel, Jack, Norman Wallen, and Helen Hyun. 2011. *How to Design and Evaluate Research in Education*, 8th ed. New York: McGraw-Hill.

Gareli, Efi, Efi Kapoula, Stela Nestoratou, Evaggelia Pritsi, Nikos Roumbis, and Georgia Sikara. 2012. *Ταξίδι στην Ελλάδα: Νέα ελληνικά για ξένους, επίπεδα A1 & A2*. Athens: Grigoris publications.

Gass, Susan. 1997. *Input, Interaction, and the Second Language Learner*. Mahwah: Lawrence Erlbaum Associates.

Gass, Susan, and Evangeline Marlos Varonis. 1994. Input, interaction, and second language production. *Studies in Second Language Acquisition* 16: 283–302. [CrossRef]

Goo, Jaemyung. 2012. Corrective feedback and working memory capacity in interaction-driven L2 learning. *Studies in Second Language Acquisition* 34: 445–74. [CrossRef]

Goo, Jaemyung, and Alison Mackey. 2013. The case against the case against recasts. *Studies in Second Language Acquisition* 35: 127–165. [CrossRef]

Guchte, Marrit, Martine Braaksma, Gert Rijlaarsdam, and Peter Bimmel. 2015. The effects of recasts and prompts. *The Modern Language Journal* 99: 246–62. [CrossRef]

Han, Zhaohong. 2002. A study of the impact of recasts on tense consistency in L2 output. *TESOL Quarterly* 36: 543–72. [CrossRef]

Han, Zhaohong, and Jihyun H. Kim. 2008. Corrective recasts: What teachers might want to know. *Journal of Language Learning* 36: 35–44. [CrossRef]

Harmer, Jeremy. 2007. *The practice of English Language Teaching*. Harlow: Longman.

Havranek, Gertraud. 2002. When Is corrective feedback most likely to succeed? *International Journal of Educational Research* 37: 255–70. [CrossRef]

Holoton, David, Peter Mackridge, and Irene Philippaki-Warburton. 1997. *Greek: A Comprehensive Grammar of the Modern Language*. London: Routledge.

Hume, Anne, and Richard K. Coll. 2009. Assessment of learning, for learning, and as learning: New Zealand case studies. *Assessment in Education: Principles, Policy & Practice* 16: 269–90. [CrossRef]

Ioannou, Sophia. 2020. Corrective Feedback in Greek as a Second Language Beginners' Classrooms. Ph.D. dissertation, University of Athens, Athens, Greece.

Ioannou, Sophia, and Dina Tsagari. 2022. Interactional corrective feedback in beginner level classrooms of Greek as a second language: Teachers' practices. *Research Papers in Language Teaching and Learning* 12: 7–25.

Ishida, Midori. 2004. Effects of recasts on the acquisition of the aspectual form -te I-(Ru) by learners of Japanese as a foreign language. *Language Learning* 54: 311–94. [CrossRef]

Kartchava, Eva. 2019. *Noticing Oral Corrective Feedback in Second Language Classroom. Background end Evidence*. London: Lexington books.

Kartchava, Eva, and Ahlem Ammar. 2014. The noticeability and effectiveness of corrective feedback in relation to target Type. *Language Teaching Research* 18: 428–52. [CrossRef]

Kim, He-Rim, and Gienn Mathes. 2001. Explicit vs. implicit corrective feedback. *The Korea TESOL Journal* 4: 1–15.

Lantolf, James, Steven Thorne, and M. Poehner. 2015. Sociocultural theory and second language development. In *Theories in Second Language Acquisition: An Introduction*, 2nd ed. Edited by Bill Van Patten and Jessica Williams. New York and London: Routledge, pp. 207–19.

Lardiere, Donna. 1998. Dissociating syntax from morphology in a divergent L2 End-State grammar. *Second Language Research* 14: 359–75. [CrossRef]

Leeman, Jennifer. 2003. Recasts and second language development: Beyond negative evidence. *Studies in Second Language Acquisition* 25: 37–63. [CrossRef]

Li, Huifang. 2018. Recasts and output-only prompts, individual learner factors and short-term EFL Learning. *System* 76: 103–15. [CrossRef]

Li, Shaofeng. 2009. The differential effects of implicit and explicit feedback on second language (L2) learners at different proficiency levels. *Applied Language Learning* 19: 53–79.

Li, Shaofeng. 2010. Feedback in Perspective: The Interface between Feedback Type, Proficiency, the Choice of the Target Structure, and Learners' Individual Differences in Working Memory and Language Analytic Ability. Ph.D. dissertation, Michigan State University, East Lansing, MI, USA.

Li, Shaofeng. 2013. The Interface between Feedback Type, L2 Proficiency, and the Nature of the Linguistic Target. *Language Teaching Research* 18: 373–96. [CrossRef]

Li, Shaofeng. 2018. Data collection in the research on the effectiveness of corrective feedback: A synthetic and critical review. In *Critical Reflections on Data in Second Language Acquisition*. Edited by Aarnes Gudmestad and Amanda Edmonds. Amsterdam: John Benjamins, pp. 33–61.

Li, Shaofeng, Zhu Yan, and Rod Ellis. 2016. The effects of the timing of corrective feedback on the acquisition of a new linguistic structure. *The Modern Language Lournal* 100: 276–95. [CrossRef]

Loewen, Shawn. 2004. Uptake in incidental focus on form in meaning-focused ESL lessons. *Language Learning* 54: 153–87. [CrossRef]

Loewen, Shawn. 2009. Grammaticality judgment tests and the measurement of implicit and explicit L2 knowledge. In *Implicit and Explicit Knowledge in Second Language Learning, Testing and Teaching*. Edited by Rod Ellis, Shawn Loewen, Catherine Erlam, Jenefer Philp and Hayo Reinders. Bristol: Blue Ridge Summit: Multilingual Matters, pp. 94–112. [CrossRef]

Loewen, Shawn, and Toshiyo Nabei. 2007. Measuring the effects of oral corrective feedback on L2 knowledge. In *Conversational Interaction in Second Language Acquisition: A Collection of Empirical Studies*. Edited by Alison Mackey. Oxford: Oxford University Press, pp. 361–78.

Loewen, Shawn, and Jenefer Philp. 2006. Recasts in the adult English L2 classroom: Characteristics, explictness and effectiveness. *Modern Language Journal* 90: 536–556. [CrossRef]

Long, Michael. 1996. The role of the linguistic environment in second language acquisition. In *Handbook of Language Acquisition*. Edited by William C. Ritchie and Tej K. Bhatia. San Diego: Academic Press, pp. 413–68.

Long, Michael H. 2007. *Problems in SLA*. New Work: Lawrence Erlbaum.

Lyster, Roy. 1998. Negotiation of form, recasts, and explicit correction in relation to error types and learner repair in immersion classrooms. *Language Learning* 48: 183–218. [CrossRef]

Lyster, Roy. 2004. Differential effects of prompts and recasts in form-focused instruction. *Studies in Second Language Acquisition* 26: 399–432. [CrossRef]

Lyster, Roy, and Hirohide Mori. 2006. Interactional feedback and instructional counterbalance. *Studies in Second Language Acquisition* 2: 269–300. [CrossRef]

Lyster, Roy, and Jesus Izquierdo. 2009. Prompts versus recasts in dyadic Interaction. *Language Learning* 59: 453–98. [CrossRef]

Lyster, Roy, and Kazuya Saito. 2010. Oral feedback in classroom SLA: A meta-analysis. *Studies in Second Language Acquisition* 32: 265–302. [CrossRef]

Lyster, Roy, and Leila Ranta. 1997. Corrective feedback and learner uptake negotiation of form in communicative classrooms. *Studies in Second Language Acquisition* 19: 37–66. [CrossRef]

Lyster, Roy, and Leila Ranta. 2013. Counterpoint piece: The case for variety in corrective feedback research. *Studies in Second Language Acquisition* 35: 167–84. [CrossRef]

Lyster, Roy, Kazuya Saito, and Masatoshi Sato. 2013. Oral corrective feedback in second language classrooms. *Language Teaching* 46: 1–40. [CrossRef]

Mackey, Alison. 2020. *Interaction, Feedback and Task Research in Second Language Learning: Methods and Design*. Cambridge: Cambridge University Press. [CrossRef]

Mackey, Alison, and Jaemyung Goo. 2007. Interaction research in SLA: A meta-analysis and research synthesis. In *Conversational Interaction in Second Language Acquisition*. Edited by Alison Mackey. New York: Oxford, pp. 407–52.

Mackey, Alison, and Jaemyung Goo. 2012. Interaction approach in second language acquisition. In *The Encyclopedia of Applied Linguistics*. Edited by Carol Chapelle. Chichester: Wiley-Blackwell, pp. 2748–58. [CrossRef]

Mackey, Alison, and Jeneffer Philp. 1998. Conversational interaction and second language development: Recasts, responses and red herringf? *The Modern Language Journal* 82: 338–56. [CrossRef]

Mackey, Alison, and Sussan Gass. 2015. Interaction approaches. In *Theories in Second Language Acquisition: An Introduction*, 2nd ed. Edited by Bill VanPatten and Jessica Williams. London: Routledge, pp. 180–206.

Mackey, Alison, Rebekha Abbhul, and Susan Gass. 2012. Interactionist Approach. In *The Routledge Handbook of Second Language Acquisition*. Edited by Susan Gass and Alison Mackey. London: Routledg, pp. 7–23.

Mackey, Alison, Susan Gass, and Kim Mcdonough. 2000. How do learners pervcive interactional feedback? *Studies in Second Language Acquisition* 22: 471–97. [CrossRef]

McDonough, Kim. 2007. Interactional feedback and the emergence of simple past activity verbs in L2 English. In *Conversational Interaction in Second Language Acquisition: A Collection of Empirical Studies*. Edited by Alison Mackey. Oxford: Oxford University Press, pp. 323–38.

McDonough, Kim, and Alison Mackey. 2006. Responses to recasts. Repetitions, primed production, and linguistic development. *Language Learning* 56: 693–720. [CrossRef]

Nassaji, Hossein. 2007. Elicitation and reformulation and their relationship with learner repair in dyadic interaction. *Language Learning* 57: 511–48. [CrossRef]

Nassaji, Hossein. 2009. Effects of recasts and elicitations in dyadic Interaction and the role of feedback explicitness. *Language Learning* 59: 411–52. [CrossRef]

Nassaji, Hossein. 2015. *The Interactional Feedback Dimension in Instructed Second Language Learning*. London: Bloomsbury.

Nassaji, Hossein. 2017. The effectiveness of extensive versus intensive recasts for learning L2 Grammar. *Modern Language Journal* 101: 353–68. [CrossRef]

Nassaji, Hossein. 2019. The effects of recasts versus prompts on immediate uptake and learning of a complex target structure. In *Language Learning & Language Teaching*. Edited by Robert M. DeKeyser and Goretti Prieto Botana. Amsterdam: John Benjamins Publishing Company, pp. 107–26.

Nassaji, Hossein. 2020. Assessing the effectiveness of interactional feedback for L2 acquisition: Issues and Challenges. *Language Teaching* 53: 3–28. [CrossRef]

Nassaji, Hossein, and Eva Kartchava, eds. 2021. *The Cambridge Handbook of Corrective Feedback in Second Language Learning and Teaching*. Cambridge: Cambridge University Press. [CrossRef]

Nicholas, Howard, Patsy Lightbown, and Nina Spada. 2001. Recasts as feedback to language learners. *Language Learning* 51: 719–58. [CrossRef]

Philp, Jenefer. 2003. Constraints on 'noticing the gap': Nonnative speakers' noticing of recasts in NS-NNS Interaction. *Studies in Second Language Acquisition* 25: 99–126. [CrossRef]

Pica, T. 1994. Research on negotiation: What does It reveal about second-language learning conditions, processes, and outcomes? *Language Learning* 44: 493–527. [CrossRef]

Pienemann, Manfried, and Anke Lenzing. 2015. Processability theory. In *Theories in Second Language Acquisition*. Edited by Bill VanPatten and Jessica Williams. New York and London: Routledge, pp. 159–79.

Ralli, Angela. 2003. Review article: Morphology in Greek linguistics: The State of the Art. *Journal of Greek Linguistics* 4: 77–129. [CrossRef]

Ralli, Angela. 2005. *Morphology*. Athens: Pataki.

Ranta, Leila, and Roy Lyster. 2017. Form-Focused Instruction. In *The Routledge Handbook of Language Awareness*. Edited by Peter Garrett and Joseph Cots. London: Routledge. [CrossRef]

Rea-Dickins, Pauline. 2004. Understanding teachers as agents of assessment. *Language Testing* 2: 249–58. [CrossRef]

Rea-Dickins, Pauline. 2008. Classroom-based language assessment. *Encyclopedia of Language and Education* 7: 257–72.

Saito, Kazuya, and Roy Lyster. 2012. Effects of form-focused instruction and corrective feedback on L2 pronunciation development of /ɹ/ by Japanese learners of English. *Language Learning* 62: 595–633. [CrossRef]

Schmidt, Richard. 2001. Attention. In *Cognition and Second Language Instruction*. Edited by Peter Robinson. Cambridge: Cambridge University Press, pp. 3–32.

Schütze, Carson. 2016. *The Empirical Base of Linguistics Grammaticality Judgments and Linguistic Methodology*. Berlin: Language Science Press.

Schwartz, Bonnie. 1993. On explicit and negative data effect in and affecting competence and linguistic behavior. *Studies in Second Language Acquisition* 15: 147–63. [CrossRef]

Scrivener, Jim. 2011. *Learning Teaching. The Essential Guide to English Language Teaching*. Oxford: Macmillan.

Sheen, Younghee. 2006. Exploring the relationship between characteristics of recasts and learner uptake. *Language Teaching Research* 10: 361–92. [CrossRef]

Sheen, Younghee. 2007. The effects of corrective feedback, language aptitude, and learner attitudes on the acquisition of English articles. In *Conversational Interaction in Second Language Acquisition: A Collection of Empirical Studies*. Edited by Alison Mackey. Oxford: Oxford University Press, pp. 301–22. [CrossRef]

Simopoulos, Georgios, Eirini Pathiaki, Rita Kanellopoulou, and Aglaia Pavlopoulou. 2010. *Ελληνικά Α'. Μέθοδος εκμάθησης της ελληνικής ως ξένης γλώσσας*. Athens: Patakis.

Skehan, Peter. 1998. *A Cognitive Approach to Language Learning*. Oxford: Oxford University Press.

Swain, Merrill. 1993. The output hypothesis: Just speaking and writing aren't enough. *The Canadian Modern Language Review* 50: 158–64. [CrossRef]

Swain, Merrill. 2005. The output hypothesis: Theory and Research. In *Handbook of Research in Second Language Teaching and Learning*. Edited by Eric Hinkel. Mahwa: Lawrence Erlbaum, pp. 471–83.

Swain, Merrill, and Sharon Lapkin. 1995. Problems in output and the cognitive process. They generate: A Step Towards Second Language Learning. *Applied Linguistics* 16: 371–91. [CrossRef]

Taras, Maddalena. 2008. Summative and formative assessment: Perceptions and realities. *Active Learning in Higher Education* 9: 172–92. [CrossRef]

Tarnanen, Mirja, and Ari Huhta. 2011. Foreign language assessment and feedback practices in Finland. In *Classroom-Based Language Assessment*. Edited by Dina Tsagari and Ildikó Csépes. Language Testing and Evaluation. Frankfurt: Peter Lang, pp. 129–46.

Trofimovich, Pavel, Ahlem Ammar, and Elizabeth Gatbonton. 2007. How effective are recasts? The role of attention, memory, and analytical ability. In *Conversational Interaction in Second Language Acquisition: A Series of Empirical Studies*. Edited by Alison Mackey. Oxford: Oxford University Press, pp. 171–96.

Tsagari, Dina. 2020. *Language Assessment Literacy. Concepts, Challenges, and Prospects*. London: Routledge.

Turner, Carolyn. 2012. Classroom assessment. In *The Routledge Handbook of Language Testing*. Edited by Glenn Fulcher and Fred Davidson. London and New York: Routledge, pp. 65–78.

Ur, Penny. 2012. *A Course in English Language Teaching*. Cambridge: Cambridge University Press.

Vogt, Karin, Dina Tsagari, Ildikó Csépes, Anthony Green, and Nicos Sifakis. 2020. Linking learners' perspectives on language assessment practices to teachers' assessment literacy enhancement (TALE): Insights from four European countries. *Language Assessment Quarterly* 17: 410–33. [CrossRef]

Wang, Xuefeng. 2008. Teachers' views on conducting formative assessment in Chinese context. *Engineering Letters* 16: 231–35.

White, Lydia. 2003. *Second Language Acquisition and Universal Grammar*. Cambridge: Cambridge University Press.

Yang, Yingli, and Roy Lyster. 2010. Effects of form-focused practice and feedback on Chinese EFL learners' acquisition of regular and irregular past tense forms. *Studies in Second Language Acquisition* 32: 235–63. [CrossRef]

Yilmaz, Yucel. 2012. The relative effects of explicit correction and recasts on two target structures via two communication modes. *Language Learning* 62: 1134–69. [CrossRef]