

ARTICLE



The effects of face-to-face and computer-mediated recasts on L2 development

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Abstract

The role of recasts, a corrective feedback technique, has received much attention from instructed SLA researchers. While a variety of factors have been identified as influencing their effectiveness in facilitating uptake and L2 development (e.g., learners' age and level of proficiency), the role of mode of interaction has been the object of relatively little research. To fill this gap, the current study explored the impact of mode of interaction on learners' successful uptake and L2 gains when recasts are provided. Sixty young Greek EFL learners ($M = 11.39$ years old, $SD = .86$) were assigned to one of two experimental conditions that differed as to whether students engaged in synchronous computer-mediated communication (SCMC) or face-to-face (FTF) interaction. Both groups performed information transmission tasks that required them to provide information about habits of fictional characters. In both conditions, the participants received interrogative, partial recasts addressing errors on the present third person singular. The recasts were oral in the FTF condition and written in the SCMC condition. L2 development was gauged by an oral and a written production test. Results demonstrated that oral recasts in the FTF mode generated more successful uptake and they led to more L2 gains than written recasts in the SCMC condition on both outcome measures.

Keywords: *Corrective Feedback, Recasts, Computer-Mediated Communication*

Language(s) Learned in This Study: *English*

APA Citation: Kourtali, N. E. (2022). The effects of face-to-face and computer-mediated recasts on L2 development. *Language Learning & Technology*, 26(1), 1–20. <https://hdl.handle.net/10125/73457>

Introduction

Inspired by Long's Interaction Hypothesis, the focus on form approach posits that drawing L2 learners' attention to linguistic constructions during meaningful interaction assists interlanguage development (Long, 1996, 2015). The focus on form approach subsumes pedagogical interventions, such as the provision of corrective feedback (CF). The benefits of CF are largely undisputed by Second Language Acquisition (SLA) researchers, as previous meta-analyses have demonstrated its effectiveness in promoting L2 development (e.g., Li, 2010; Lyster & Saito, 2010; Lyster et al., 2013; Mackey & Goo, 2007; Russell & Spada, 2006; Spada & Tomita, 2010). Hence, the aim of more recent research is not to explore whether CF facilitates learning but to investigate pedagogical conditions that may influence its effectiveness.

The focus of the current study is CF in the form of recasts. Recasts are defined as reformulations of students' output in which one or more errors are corrected without changing students' original content (see [Example 1](#) obtained from the data of the present study).

Example 1

Recast

Learner: He dance tango.

Researcher: He dances? (*Recast*)

Two conditions are explored: oral recasts provided in the face-to-face (FTF) mode and written recasts delivered during synchronous computer-mediated communication (SCMC). In other words, the aim is to examine whether mode of interaction (FTF vs. SCMC) influences the extent to which recasts lead to L2 learning. According to González-Lloret (2014), there are similar interactional features in the discourse used in the two modes. For example, both modes involve real-time communication, short turns, informality, direct and interpersonal communication (Arroyo & Yilmaz, 2018; Blake, 2009; Kern, 1995; Lin et al., 2013; Ziegler, 2016). Considering these similarities, empirical research is needed to explore the effectiveness of CF in the two modes.

Background

Recasts in the FTF Environment

An initial attempt to evaluate the effectiveness of oral recasts delivered in the FTF mode involved measuring students' successful uptake; that is, the extent to which they modify their initial erroneous output after receiving a recast (Ellis et al., 2001; Lyster & Ranta, 1997) as displayed in [Example 2](#) from the current study.

Example 2

Successful Uptake

Learner: He **dance** tango.

Researcher: He **dances**? (*Recast*)

Learner: **dances** tango. (*Successful uptake*)

Previous research has demonstrated that several factors influence the degree to which oral FTF recasts lead to successful uptake. One of these factors is educational context (Ellis et al., 2001; Llinares & Lyster, 2014; Lyster & Ranta, 1997; Panova & Lyster, 2002; Sheen, 2004). Lyster and Mori (2006) argued that in some contexts such as in Japanese classrooms in their study or in Korean EFL classrooms in Sheen (2004), students are primed to pay attention to form as they are used to performing more form-based activities with a focus on accuracy (e.g., choral repetitions of isolated linguistic features). Consequently, when receiving recasts, they are more likely to perceive them as focus on form episodes and produce successful uptake. On the contrary, recasts may be less effective in leading to successful uptake in meaning-oriented classrooms such as the French immersion classrooms in Lyster and Ranta (1997).

Although uptake has received a lot of attention, several researchers emphasize that uptake should be viewed as a discourse phenomenon that may or may not provide insights into psycholinguistic processes associated with noticing. Uptake has been characterized as voluntary and although the recipients of feedback might notice the target-like construction, they might not necessarily correct their errors (Ellis et al., 2001; Loewen, 2004; Long, 2007; Ohta, 2000).

Considering that uptake is not a robust indicator of L2 outcomes, many studies have examined the effectiveness of oral FTF recasts by employing tests to measure learners' L2 gains. These studies have demonstrated that recasts are beneficial for L2 learners; nevertheless, these benefits are influenced by several factors. Variables that have been found to affect the efficacy of recasts are task factors (e.g., Baralt, 2013; Kim et al., 2015; Kourтали & Révész, 2019; Révész, 2009; Révész et al., 2014), individual differences

in working memory and L2 aptitude (e.g., Goo, 2012; Kim et al., 2015; Kourтали & Révész, 2019; Révész, 2012; Trofimovich et al., 2007; Yilmaz, 2013; Yilmaz & Grañena, 2016), learners' level of proficiency (Philp, 2003; Trofimovich et al., 2007), learners' age and type of interlocutor (Mackey et al., 2003), type of target linguistic construction (Ellis, 2007; Ishida, 2004; Kartchava & Ammar, 2014; Leeman, 2003; Yang & Lyster, 2010; Yilmaz, 2012), type of target error (Kim & Han, 2007; Lyster, 1998; Mackey et al., 2000; Trofimovich et al., 2007), and the characteristics of recasts (Loewen & Philp, 2006; Nassaji, 2009; Philp, 2003; Sheen, 2006). Although a plethora of research has explored the impact of different factors on the benefits of oral recasts supplied during FTF interaction, only a handful of studies have examined the role of written recasts provided during SCMC.

The SCMC Mode

Researchers exploring L2 interaction in SCMC have found several benefits, such as more learner participation (e.g., learners are more active interlocutors taking more turns and initiatives) (Chun, 1994; Kern, 1995), less anxiety (Satar & Özdener, 2008), and increased motivation (Warschauer, 1996). Previous research has also demonstrated that SCMC facilitates negotiation of meaning (Blake, 2000), learners' oral proficiency (Payne & Whitney, 2002), and lexical development (Fuente, 2003; Smith, 2004). Regarding CF research, several SLA researchers have argued that certain aspects of written SCMC could facilitate noticing of CF. In particular, in comparison to oral interaction, turn-taking in a text-based online chat occurs at a slower pace and messages remain on the screen. This provides learners with more time (a) to process written input (including CF) and (b) to monitor their output while engaging in online planning (Lin et al., 2013; Smith, 2012), that is, planning one's message while performing a task (Yuan & Ellis, 2003). Researchers have argued that online planning can benefit L2 learners because it enables them to free up attentional resources, resulting in greater attention being allocated to form-meaning mappings during the formulation of messages (Smith, 2012; Yuan & Ellis, 2003).

As recasts provide both positive and negative evidence (Leeman, 2003), written recasts in the SCMC mode could be successful in assisting cognitive comparison between learners' erroneous output and the juxtaposed target-like features (Sauro, 2009), especially when they are provided immediately after learners' errors (Arroyo & Yilmaz, 2018; Lai et al., 2008). Sauro (2009) has also argued that the written mode could be effective in increasing the visual salience of features that are unstressed during oral interaction, such as English articles or the present third person singular -s.

Previous Research on Recasts in the SCMC Mode

Considering the possible benefits of written SCMC interaction, researchers set out to explore whether recasts supplied in text-based chat facilitate L2 learning. Studies examining learners' responses to written SCMC recasts have demonstrated a low rate of successful uptake (Gurzynski-Weiss & Baralt, 2014; Smith, 2010). Using think aloud protocols and stimulated recall methodology, Lai et al. (2008) showed that students reported noticing more of the written SCMC recasts when they were provided immediately after errors as compared to recasts supplied a few turns later. Smith (2012) also found that the extent to which learners noticed written SCMC recasts was associated with their linguistic focus. In particular, semantic and syntactic recasts were noticed significantly more than morphological recasts, as evidenced in the participants' stimulated recall comments.

Studies that have examined whether written SCMC recasts lead to L2 learning have shown incongruent results. In Sachs and Suh (2007), both textually enhanced and unenhanced computer-delivered recasts facilitated learning of reported speech (i.e., backshifting of verbs from past to past perfect). Conversely, SCMC recasts seem to be less successful when they target non-salient linguistic features (Loewen & Erlam, 2006; Sauro, 2009). In particular, Loewen and Erlam (2006) explored the impact of recasts and metalinguistic feedback on development of the past tense measured by a timed and an untimed grammaticality judgement test. The study found no advantage of one type of feedback over another and no L2 benefits in comparison to a control group. Sauro (2009) also compared the effectiveness of recasts and metalinguistic feedback in assisting development of the English zero article followed by abstract

uncountable nouns. L2 development was gauged by a computer-delivered acceptability judgement test. Sauro revealed that only the metalinguistic group demonstrated significantly greater immediate L2 benefits than the control group; however, there were no significant differences between recasts and metalinguistic information on either the immediate or the delayed posttest.

Despite the similarities in the discourse produced in text-based chat and oral interaction, only a handful of studies have compared the effectiveness of recasts in these two environments (Baralt, 2013; Yilmaz, 2012). Yilmaz (2012) showed that recasts were more successful when they were provided in the text-based SCMC condition as compared to the FTF condition; in both modes, recasts were more effective when they addressed Turkish plural morphemes than Turkish locative case morphemes. Yilmaz explained that the former is a more salient feature in terms of perceptual salience, morphological regularity, and similarities between participants' first language (L1) and the L2 (see Goldschneider & DeKeyser, 2001).

In a similar vein, Baralt (2013) demonstrated that written SCMC recasts assisted L2 learning; however, their benefits were influenced by the cognitive demands of the task the students performed. In particular, recasts in the FTF mode were more beneficial than those in the SCMC mode when the participants engaged in tasks with greater reasoning demands. On the contrary, recasts in the SCMC environment led to greater gains than those in the FTF environment when the participants carried out simple tasks with no reasoning demands.

The Present Study

Research on written SCMC recasts and their effectiveness, as compared to oral FTF recasts, is still limited (Baralt, 2013; Yilmaz, 2012). Although written SCMC could be a promising learning environment as it may facilitate noticing of recasts and enable learners to engage in online planning (see Sauro, 2009; Smith, 2012), more research is needed to show whether and in what conditions students benefit from SCMC recasts, and whether these recasts are more beneficial than those delivered in the FTF mode. Furthermore, previous research has not examined the effectiveness of written SCMC recasts for child learners in the first stages of L2 development. As there are many similarities in the discourse produced in the FTF mode and in the written SCMC mode (i.e., text-based chat) and because online learning has become a popular learning environment, exploring the efficacy of recasts in these two modes merits more attention from SLA researchers. To this end, the following research questions were formulated:

1. To what extent does mode of interaction affect the amount of successful uptake produced by child L2 learners after receiving recasts on the present third person singular?
2. When recasts are provided, does mode of interaction affect the development of the present third person singular as measured by (a) an immediate oral production test and (b) an immediate written production test?

Methodology

Design

The study employed a pretest-posttest design with two treatment sessions. Participants were assigned to one of two experimental groups (FTF or SCMC) through stratified random sampling, taking into account the length of learning English before the study and the students' pretest and proficiency test scores. One group performed information transmission tasks in the FTF mode, whereas the other group carried out the same tasks in the SCMC mode. In both conditions, learners received interrogative, partial recasts in response to errors on the present third person singular. The recasts were oral in the FTF condition and written in the SCMC condition provided via [Skype](#). Learners' L2 development was measured by an oral production test and a written production test administered immediately after interaction.

Linguistic Target

The target feature of the study is the present third person singular, a structure not easily acquired by L2 learners. The present third person singular involves a bound morpheme realized via three phonological alternations—the consonantal, non-syllabic allomorphs [s], [z], and a syllabic allomorph that contains a schwa vowel [əz]. In the written mode, the present third person singular is realized via three suffixes -s, -es, -ies. A possible difficulty for L2 learners is that these suffixes are related to orthographic rules and there is no correspondence with the phonological alternations (e.g., the allomorphs [s] and [z] are used for make-s and play-s). Another difficulty is the low communicative value of these features and that they are physically non-salient (Goldschneider & DeKeyser, 2001; VanPatten, 1996).

Participants

The participants were 60 EFL learners, 34 females and 26 males, enrolled in various language schools in Greece, where form-focused instruction and the communicative approach are used. In these schools, the students used textbooks that have both speaking and writing activities. They engaged in oral tasks in the FTF mode and in written production tasks on paper. They had no experience with SCMC tasks and SCMC feedback prior to the study as they had never enrolled in online classes and they had only attended English in the FTF mode in traditional classrooms. Their ages varied from 10.5 to 13 years ($M = 11.39$, $SD = .86$). They were all native speakers of Greek; however, six of them were bilinguals, born in Greece but of Romanian ($n = 3$), Albanian ($n = 2$), or Russian ($n = 1$) origin. Their length of learning English prior to the study ranged from two to eight years ($M = 4.56$, $SD = 1.19$), but none of them had ever lived in an English-speaking country before. The majority of the students also reported learning a second language (i.e., German, French or Russian) ($n = 44$) and using a keyboard frequently. All of the participants completed the listening component of the Trinity College ISE Foundation test and they achieved an ISE score in the range of 2 and 4, which is equivalent to level A2 in the Common European Framework of Reference (CEFR). During the test, the students had to listen to a story about a writer and understand five facts about him. A series of independent samples t tests run on the variables of age, length of learning English, and performance on the proficiency test confirmed that the FTF and the SCMC groups were comparable in terms of these factors (age: $t = -.074$, $p = .447$, $d = .02$; length of learning English: $t = .00$, $p = .768$, $d = 0$; proficiency: $t = -.061$, $p = .875$, $d = .01$).

Treatment Tasks

Both the FTF and the SCMC groups performed two information transmission tasks designed to elicit the present third person singular (Appendix C). In both tasks, the students had to give information to the researcher. In the first task, the researcher was a building manager and the participant was an assistant. The building manager and the assistant had found several items left by a transportation company at the entrance of their residence and the owners of these items were the tenants of the block of flats. The students / assistants had to give information to the building manager / researcher about what the tenants usually did on the weekend (e.g., Jane cooks on Sundays) so that the latter could make decisions about who the owners of the items were. In the second task, each participant had the role of an employee working at an airport. The students / employees had found lost items and they had to help a colleague (the researcher) find the owners of these items by giving information about the owners' habits. In both tasks, the habits of the characters were depicted in a table with pictures. In order to ensure that the tasks elicited the present simple tense, the clause "what the characters usually do on the weekends" was underlined and it was presented in bold. Furthermore, the instructions were provided in the participants' L1 and the researcher was with them to provide clarifications when needed.

Type of Recasts

While carrying out the treatment tasks, the participants received interrogative, isolated recasts that reformulated their errors without additional information (Lyster, 1998). In the FTF mode, recasts were provided with rising intonation, and in the SCMC mode, they were followed by a question mark. Both groups received recasts from the researcher. In both modes, recasts were supplied immediately after the

participants' errors, as previous research has shown that immediate recasts benefit learners more than those provided a few turns later (Lai et al., 2008). In all of the recasts, the present third person singular was placed at the end of sentences (e.g., "She sings?") so as to ensure that what followed would not influence processing of the target feature in different phonetic contexts (e.g., "She sings songs" vs. "He takes photos"). The recasts also addressed a variety of verbs so as to provide *balanced* rather than *skewed input* and enable learners to generalize the pattern of the present third person singular in novel verbs (McDonough & Nekrasova-Becker, 2014).

Assessment Tasks

The aim of the oral and the written production tests was to demonstrate learners' development in producing the target feature in the oral and written mode, respectively (Appendix B). Each test had 12 visual images that required the participants to give information about the habits of different characters. Both outcome measures had two versions, which were counterbalanced across the pretest and posttest so as to circumvent possible test effects. In the two versions of each test (pretest-posttest version), there were different pictures; however, they showed the same actions so as to prompt the participants to produce the same verbs. Both versions also involved the same number of obligatory contexts (OCs) for the target feature. Regarding the two outcome measures, the pictures of the oral and written production tests depicted the same habits, so as to encourage the participants to produce the same verbs in the two modes. The test instructions were in the students' L1.

Considering that the treatment occurred in two modes (i.e., oral and written), it was important to measure learners' development in both environments. The oral production test indicated whether potential learning benefits of written text-based recasts were transferred into the oral mode, whereas the written test provided evidence about whether potential benefits of oral recasts were demonstrated in the written mode.

Regarding the type of knowledge the two tests measured, although procedural knowledge was involved in both tests (Anderson, 1993; DeKeyser, 2007), the oral production test was more likely to measure procedural knowledge in the process of automatization as it posed more time pressure as compared to the written mode. Unlike the oral test, when taking the written test, the students could revise their output at the end. Thus, they were more likely to use their explicit declarative in addition to procedural knowledge.

Procedure

Data were collected over a time span of four months. The experimental schedule is presented in Figure 1. In the first session, the participants were asked to fill in a background questionnaire in their L1 (Appendix A) and they were also given the proficiency test and the pretests so as to ensure that they satisfied the inclusion criteria of the study. These criteria were students' L1 (Greek or bilingual speakers born in Greece), not having lived in an English speaking country before the study, low level of proficiency (A2), and limited prior knowledge of the target feature, as demonstrated by the oral and written production pretests. Sixty learners who were eligible to participate were invited to attend the second session. In that session, they carried out two information transmission tasks in the FTF or in the SCMC mode, depending on their group, and they were provided with recasts in response to errors on the target feature. The length of each treatment task was approximately 20 minutes. After the two treatment tasks, the participants were immediately given two posttests to measure L2 gains. In both sessions, the oral production test preceded the written one so as to ensure that the students were less likely to access their explicit, declarative knowledge during oral production. A delayed posttest was not administered because the researcher could not control learners' exposure to the target feature following the immediate posttest. Written interaction was recorded by a screen capture software called **SNAGIT**, whereas oral interaction in the FTF mode was audio recorded.

Figure 1

Experimental Schedule of the Study

SESSION 1	Consent form and background questionnaire
	Proficiency test
	Oral production pretest
	Written production pretest
<i>One week interval</i>	
SESSION 2	Treatment (FTF or SCMC tasks)
	<i>Five minute break</i>
	Oral production posttest
	Written production posttest

Data Analysis

Transcription

All the oral data from the treatment tasks and tests were transcribed. Ten percent of the data were transcribed by a second researcher, and inter-transcriber agreement was found to be high (.98). Cohen's kappa was also computed and reached .96.

Coding and Scoring

Drawing on previous literature (Ellis et al., 2001; Lyster & Ranta, 1997), uptake was coded as successful when learners modified their output and corrected their initial errors on the present third person singular by producing the same verb or a new verb. In contrast, their uptake was coded as unsuccessful when they (a) repeated the same error by producing the present third person singular inaccurately on the same or a different verb, (b) when they made an error related to a different construction without correcting the present third person singular, (c) when they provided a yes/no answer, (d) when they remained silent, and (e) when they continued to give information without correcting the target error (for a review of the coding, see Lyster & Ranta, 1997).

Learners' scores on the outcome measures were calculated by identifying obligatory contexts (OCs) for the target feature on the oral and written production tests. The students received one point for each target item they produced accurately. Vocabulary, pronunciation, and orthographic errors did not affect the students' score. Ten percent of the data were coded by a second researcher for each outcome measure. The Cohen's kappa values were high: .93 for the participants' successful uptake, .95 for the oral production test, .97 for the written production test.

Statistical Analyses

The normality of the distributions of the gain scores on the oral and written production tests was explored and the Shapiro-Wilk test ($p < .05$) demonstrated that non-parametric tests were required for the analyses. Thus, the study employed the Mann-Whitney U test. Drawing on Plonsky and Oswald (2014), the effect sizes were interpreted as small when r was close to .25, medium when r was close to .40, and large when r reached .60.

Results

Preliminary Analyses

Before exploring the research questions, a series of Mann-Whitney U tests were conducted to examine whether the two groups were significantly different in their prior knowledge of the target feature in order to ensure that the two experimental groups were comparable. [Table 1](#) presents descriptive statistics for the performance of the two groups on the pretest. The Mann-Whitney U test showed that there was no significant difference between the two groups (Mann-Whitney U = 445.50, $p = .924$ for the oral production test; Mann-Whitney U = 414.50, $p = .452$ for the written production test). The effect sizes were also small ($r = .01$ for the oral production test, $r = .09$ for the written production test). Consequently, L2 gains after the treatment could be attributed to the combined effects of mode of interaction and recasts.

Table 1

Descriptive Statistics for the Pretest Scores of the Two Groups

Assessment Task	Group	<i>n</i>	Median	IQR	Minimum	Maximum
Oral production test	FTF	30	0.00	0.00	0.00	18.75
	SCMC	30	0.00	0.00	0.00	14.28
Written production test	FTF	30	0.00	1.92	0.00	30.76
	SCMC	30	0.00	0.00	0.00	25.00

Note. FTF stands for face-to-face mode while SCMC stands for synchronous computer-mediated communication. IQR stands for Interquartile Range.

The researcher also examined whether the two modes were similar in their number of OCs for the target feature so as to confirm that the two groups had equal opportunities to receive recasts. The tasks elicited a similar number of OCs in both modes ([Table 2](#)).

Table 2

Descriptive Statistics for Obligatory Contexts for the Target Feature per Group

Group	Total Number	Median	IQR
FTF (Task 1)	448	15.00	1.25
FTF (Task 2)	451	15.00	1.00
FTF (Both Tasks)	899	30.00	2.25
SCMC (Task 1)	456	15.00	2.00
SCMC (Task 2)	444	15.00	1.00
SCMC (Both Tasks)	900	30.00	3.00

Research Question 1

The first research question explored the extent to which mode of interaction affected the amount of successful uptake produced by L2 learners after the provision of recasts targeting the present third person singular. Oral recasts in the FTF condition generated more successful uptake than written recasts in the SCMC condition. In particular, according to [Table 3](#), the median of successful uptake was 52.38 for the

FTF group and 0.00 for the SCMC group. Regarding the interquartile range (IQR), the FTF group demonstrated greater variability (73.81) as compared to the SCMC group (6.64). The students corrected their errors after receiving a recast significantly more in the FTF condition than in the SCMC condition (Mann-Whitney $U = 181.50$, $p < .001$). The effect size was also large ($r = .52$ for both tasks, $r = .50$ for Task 1, $r = .46$ for Task 2).

Table 3

Descriptive Statistics for Successful Uptake Following Recasts per Group

Group	n	Median (%)	IQR	Minimum	Maximum
FTF (Task 1)	30	45.45	66.67	0.00	100.00
FTF (Task 2)	27	60.00	92.85	0.00	100.00
FTF (Both Tasks)	30	52.38	73.81	0.00	100.00
SCMC (Task 1)	30	0.00	7.55	0.00	92.85
SCMC (Task 2)	28	0.00	0.00	0.00	100.00
SCMC (Both Tasks)	30	0.00	6.64	0.00	96.55

In order to elucidate possible reasons for the low rates of successful uptake during online interaction, the researcher identified different types of students' responses to recasts that did not involve successful uptake in the SCMC environment. Five types of responses were elicited: the participants replied "yes" (Example 3), they changed the topic (Example 4), they repeated the same error (Example 5), they repeated the same information they had typed prior to recasts without correcting their initial error (Example 6), or they provided additional information related to the semantic content of the pictures of the task without correcting the target feature (Example 7). Table 4 shows descriptive statistics for the types of responses without successful uptake (SU) the two groups produced.

Example 3

Acknowledgement

Researcher: Lucy?

Learner: on Saturdays 7 9 is dance not at home

Researcher: She dances?

Learner: yes (*acknowledgement*)

Example 4

Topic Continuation

Learner: Natalie on Sundays at 3 5 he is at home and read one book

Researcher: She reads?

Learner: George on Saturdays at 9 he is at home and he cut carrots (*topic continuation*)

Example 5*Same error*

Researcher: Mary?

Learner: Mary on Sundays all day is climbing a hill not at home.

Researcher: She climbs?

Learner: Is walking. (*same error*)

Researcher: She walks?

Learner: walking. (*same error*)

Example 6*Same Information*

Researcher: Natalie?

Learner: On Sundays reading book at 3-5 'clock at home.

Researcher: She reads?

Learner: book (*same information as prior to the recast*)

Example 7*Additional Information*

Researcher: Alex?

Learner: Alex on Saturdays 9-11 is at a home and work

Researcher: He works?

Learner: acountent (accountant) (*additional information*)

Table 4*Types of Responses Without Successful Uptake Following Recasts per Group*

Learners' Responses to Recasts	Group (n =30)	Median (%)	IQR	Minimum	Maximum
Same Information without SU	FTF	0.00	0.00	0.00	7.14
	SCMC	3.57	22.65	0.00	80.00
Novel Information without SU	FTF	0.00	0.86	0.00	20.00
	SCMC	3.38	38.61	0.00	89.28
Yes Answers	FTF	27.71	75.61	0.00	100.00
	SCMC	0.00	84.15	0.00	100.00
Topic Continuation	FTF	0.00	0.83	0.00	87.50
	SCMC	0.00	4.42	0.00	100.00
Same Error	FTF	0.00	0.00	0.00	15.00
	SCMC	0.00	0.00	0.00	23.07

Note. SU stands for successful uptake. A few responses that did not involve successful uptake were coded as unclear and they were excluded.

There were no significant differences between the FTF and SCMC groups in the first type that involved “yes” answers (Mann-Whitney $U = 361.00$, $p = .178$). The effect size was small ($r = .17$). There were also no significant differences between the two groups in the topic continuation category and in responses that involved the same error (Mann-Whitney $U = 412.50$, $p = .476$ for topic continuation; Mann-Whitney $U = 443.00$, $p = .882$ for same errors). The effect sizes were also small ($r = .09$ and $r = .01$, respectively).

Interestingly, there were significant differences between the SCMC and FTF groups in other types of responses. In particular, the SCMC learners responded to recasts by repeating the same information they had given prior to feedback (Example 6) or by offering novel information about the habits of the characters without modifying their non-target-like output (Example 7) significantly more than the FTF group (Mann-Whitney $U = 237.00$, $p < .001$ for responses involving the same information; Mann-Whitney $U = 280.50$, $p = .005$ for responses providing additional information). The effect sizes were medium ($r = .49$ and $r = .36$, respectively).

Research Question 2

The second research question examined the effects of mode of interaction on facilitating knowledge of the present third person singular when recasts were provided. The FTF group outperformed the SCMC group on both tests. Specifically, as Table 5 shows, in the FTF condition, the median was 25.38 and 58.33 on the oral and written production tests, respectively. In the SCMC condition, the median was 0.00 on both tests. Great variability was found in the FTF group as the IQR was 53.04 on the oral production test and 100.00 on the written production test. In the SCMC condition, the IQR was 12.71 on the oral production test and 3.43 on the written production test. The FTF group exhibited significantly greater gains than the SCMC group on both outcome measures (Mann-Whitney $U = 282.00$, $p = .010$ on the oral production test; Mann-

Whitney $U = 256.50$, $p = .002$ on the written production test). The effect size was medium ($r = .33$ for learners' L2 gains on the oral production test and $r = .39$ for their L2 development on the written production test). In other words, the learners benefitted more from oral recasts during FTF interaction as compared to written recasts in the SCMC environment.

Table 5

Descriptive Statistics for Gain Scores per Group

Assessment Task	Group	<i>n</i>	Median	IQR
Oral production test	FTF	30	25.38	53.04
	SCMC	30	0.00	12.71
Written production test	FTF	30	58.33	100.00
	SCMC	30	0.00	3.43

Discussion

The current study examined the impact of mode of interaction on the amount of successful uptake produced after recasts targeting the present third person singular and on L2 gains as measured by an oral and a written production test. Regarding uptake, the SCMC group produced a significantly lower amount of successful uptake than the FTF group. This finding echoes previous research that has also shown low levels of successful uptake in the SCMC environment (Smith, 2010) and more successful uptake in the FTF mode, as compared to SCMC (Gurzynski-Weiss & Baralt, 2014; Rouhshad et al., 2016).

However, successful uptake by itself is not a reliable predictor of noticing and subsequent development, and previous studies have exhibited incongruent findings about the relationship between uptake and learning (Loewen & Philp, 2006 vs. Egi, 2010; Loewen, 2005). Therefore, in addition to uptake, the current study also measured L2 gains by employing an oral and a written production test. As explained earlier, the FTF group outperformed the SCMC group on both tests. Interestingly, the students who engaged in oral interaction in the FTF mode exhibited L2 gains both in the oral and in the written mode (i.e., on the oral and written production tests). In contrast, those performing tasks in the SCMC mode did not achieve much improvement in the oral mode, as revealed by the oral production test. Surprisingly, the SCMC group exhibited only small L2 benefits even on the written production test, which was administered in the same mode as the treatment.

In addition to the above findings, it is worth mentioning that in the SCMC condition some participants' private speech recorded by the screen-capture software involved comments associated with the semantic content of the pictures rather than the target feature. The text-based online chat recorded by the screen-capture software also revealed that most learners did not go back to revise previous CF episodes. The researcher also compared the number of recasts provided in the FTF and in the SCMC environment during the treatment tasks. More recasts were supplied in the SCMC condition ($Mdn = 28.00$, $IQR = 17.00$) than in the FTF environment ($Mdn = 16.50$, $IQR = 19.00$), and this difference was found significant (Mann-Whitney $U = 266.50$, $p = .006$). The effect size was medium ($r = .35$). This indicates that the SCMC group persisted with the same error, requiring the provision of more feedback, whereas the participants in the FTF condition needed fewer recasts as they managed to improve their performance during the tasks.

These results raise questions of why oral recasts in the FTF mode were more effective in drawing learners' attention to the target feature than written recasts in the SCMC mode. Some factors that may have contributed to the effectiveness of oral FTF recasts are that they were partial, they were provided with rising

intonation, and they placed the allomorphs of the present third person singular at the end of utterances (e.g., "He makes?"). This position may have increased the perceptual salience of a target feature, which is more likely to remain unattended to in more implicit conditions (e.g., when implicit full recasts are used such as "He makes a cake?") (Bardovi-Harlig, 1987). Although partial recasts were also used in the SCMC condition, the written mode did not lead to similar L2 gains as oral FTF recasts. This finding is in line with other SCMC studies that explored recasts targeting morphological features. For example, Smith (2012) demonstrated that morphological recasts were less successful in assisting noticing in comparison to semantic and syntactic recasts. Furthermore, similar to the current study, SCMC recasts were less effective in promoting development when addressing non-salient Turkish morphemes in Yilmaz (2012), English articles in Sauro (2009), and the past simple -ed in Loewen and Erlam (2006). Hence, written recasts in the SCMC environment may not be sufficient to increase the salience of non-salient linguistic features and more explicit interventions may be needed.

A possible interpretation for the limited gains in the SCMC condition in the present study could be that the SCMC group mainly focused on meaning at the expense of form. This result echoes Sotillo's (2000) finding that when students engaged in SCMC, they paid more attention to meaning rather than accuracy. In the current study, as explained earlier, many participants in the SCMC condition responded to recasts by providing additional information or by repeating the same information about the characters' habits. Drawing on the Limited Capacity Model (Skehan, 2009, 2014), it is possible that due to attentional limitations, learners could not simultaneously process the target morpheme of the present third person singular and the content depicted in pictures. Many of their responses to the feedback indicate that they might have devoted more attention to the semantic content of the pictures rather than to the target feature. It is also possible that apart from the competition between meaning and accuracy in the allocation of attentional resources, learners' attempts to avoid potential orthographic errors might have increased the cognitive load during written interaction.

It still remains an open question though why oral FTF recasts were more effective in drawing learners' attention to language in comparison to written SCMC recasts. This discrepancy could be attributed to the participants' prior learning experiences. In the educational context explored in the present study, learners were not familiar with the SCMC mode being utilized as a tool for error correction. Although they received written feedback on written output on paper, they had never received feedback as part of interaction in the SCMC mode. Furthermore, the interrogative mode of the SCMC recasts, in combination with the learners' lack of previous experience in receiving CF on morphology in the SCMC environment, might have encouraged that group to perceive recasts as clarification requests requiring information about the meaning of their output. Consequently, recasts delivered in the online environment failed to serve as CF on grammatical features. On the contrary, oral FTF feedback on grammar was employed by their teachers in traditional EFL classrooms. Due to the participants' prior learning experiences in FTF classroom interaction, the FTF environment might have increased the explicitness of recasts and, consequently, their corrective intention was more easily recognized by EFL learners. This explanation is well aligned with Nicholas et al.'s (2001) argument that a prerequisite for the effectiveness of recasts in leading to L2 benefits is that their intention to correct a form is unambiguous and clear to learners.

Limitations

There are some limitations to the present study that should be acknowledged. First, the study used a specific type of recast (partial and interrogative) and it focused on a single grammatical feature. The effects of SCMC recasts may be different when other linguistic constructions are addressed, such as lexis or other morphosyntactic features that differ in perceptual salience and redundancy. Furthermore, the current empirical work explored L2 development of EFL children in Greece. The results cannot be generalized to other age groups or learners in different educational contexts, at different levels of proficiency, or with other L1 backgrounds. Another shortcoming is that the present research project employed only tests that required L2 production. Comprehension-based outcome measures, such as grammaticality judgement tests,

could gauge additional aspects of learners' development. Finally, there was no delayed posttest. Although the FTF group exhibited greater development than the SCMC group, it is not clear whether the FTF recasts lead to long-term gains.

Conclusion

The current study offered insights into the effects of mode of interaction on successful uptake and L2 development of the present third person singular when recasts are provided. The study demonstrated that oral FTF recasts were significantly more effective than written SCMC recasts in facilitating successful uptake and L2 gains for children in an EFL context. This finding indicates that the written mode is not sufficient to increase the salience of the present third person singular and more explicit interventions may be needed.

The results of the current study suggest possible directions for future research. In particular, more studies are needed to delve into what conditions can make CF in the SCMC environment more effective for children or adult learners by exploring different types of CF, recasts with different characteristics (explicit vs. implicit recasts) (see Sheen, 2006), other linguistic features, and different types of tasks (e.g., dialogic tasks). Future empirical work could also use eye tracking and stimulated recall methodology to examine learners' perceptions of SCMC recasts. As these perceptions might be related to learners' prior learning experiences, researchers could engage in classroom observation. Finally, future research could examine whether students' learning styles (e.g., auditory, visual) influence the effectiveness of oral and written feedback in the FTF and SCMC modes.

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Appendix A. Background Questionnaire

Participant (e.g., S1, S2):

Age:years

Gender: Female Male

Grade:

First Language(s):

Other Languages:.....

Length of Learning English: years

I have stayed in an English-speaking country before : Yes / No

If yes, length of my stay in an English-speaking country :monthsyears

How often do you use a keyboard on a laptop?

Appendix B. Assessment Tasks

Oral Production Test

You are participating in a research project that investigates what young people usually do in their free time. The following table shows what the characters usually do on the weekends. Give the information to Nektaria orally.

Written Production Test

You are participating in a research project that investigates what young people usually do in their free time.

The following [table](#) shows what the characters usually do on the weekends. Write and give the information to Nektaria.

Appendix C. Tasks

TASK 1

The characters shown in [Table 1](#)* have recently moved to a new neighbourhood. The transportation company has left their objects at the entrance of the block of flats.

Nektaria is a building manager and she has been asked to give the objects to the owners. Unfortunately, she doesn't have their numbers so as to ask them what they have lost.

You know these characters and what they usually do on the weekends. Nektaria needs this information so as to find the owners of the objects.

The information you have is demonstrated in [Table 1](#). Mention the activity the owners do, the time and whether they are at home so that Nektaria knows whether she will find them there.

*The students were provided with pictures that show what characters usually do on the weekends.

TASK 2

The characters shown in [Table 2](#)* are tourists who lost some objects at the airport.

Nektaria works at the airport and she has to send these objects to the owners. Unfortunately, she lost a list that showed what they have lost.

You work at the airport and you have some information from a questionnaire they had filled in. This information is about what they usually do on the weekends and Nektaria needs it to find who the owners of the objects are.

The information you have is demonstrated in [Table 2](#). Mention the activity the owners do, the time and whether they are at home so that Nektaria knows whether she will find them there.

*The students were provided with pictures that show what characters usually do on the weekends.

About the Author

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