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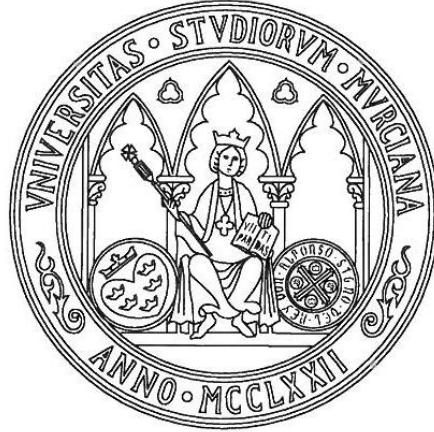
The Use of Written Models in the Teaching of English
in Primary

La Utilización de Modelos Escritos en la Enseñanza
del Inglés en Primaria

Dña. Josefa Cánovas Guirao
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Departamento de Didáctica de la Lengua y la Literatura
(Área de Inglés)

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Josefa Cánovas Guirao

Directora: D^a Yvette Coyle

Co-director: D. Julio Roca de Larios

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Por nosotros...

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List of abbreviations

(In alphabetical order)

C1 = Cycle 1

C2 = Cycle 2

CI= Comprehended Input

CF = Corrective feedback

CLA= Clause

D-LREs = Discourse Language Related Episodes

DR= Drawback

EC = Error correction

EFL = English as a Foreign Language

FL = Foreign Language

F-LREs = Form language related episodes

HL= High level

IM= Improvement

L1 = First Language

L2 = Second Language

LL= Low level

LLLP = Less Language Learning Potential

LLP = Language Learning Potential

L-LREs = Lexis Language Related Episodes

LREs = Language Related Episodes

MLLP = More Language Learning Potential

MM=Matches the Model

NCI= Not Comprehended Input

NEC= No Evidence of Comprehension

NMM=Not Matches the Model

NTG= Non-teaching group

PCI= Partially Comprehended Input

PIM= Partial Improvement

PMM= Partially Matching the Model

PRE= Pre-clause

PRO= Proto-clause

S1= Stage 1

S2= Stage 2

S3= Stage 3

SLA = Second Language Acquisition

T1= Trajectory 1 etc.

TG= Teaching group

WCF = Written Corrective Feedback

Chapter I:

Introduction

I.1. Background of the study

In formal language learning contexts such as Spain, children spend at least twelve years of their lives in primary and secondary education. During this time they are exposed to English as a subject in the school curriculum for a few hours a week and often with little or no contact with the language beyond the classroom. In many schools, under the guise of a communicative approach to language learning, much of the time is dedicated to explicit focus on forms (FonFs) (Long, 1991, 1996) and vocabulary teaching in teacher-dominated classrooms. The development of competence in FL writing is rarely contemplated beyond the completion of textbook exercises. Young learners in mainstream classrooms frequently copy, match, underline, circle and fill in gaps in sentences with topic vocabulary, but they are seldom required to write texts in English. As a result, they are denied important opportunities to try out their developing knowledge of the FL and to receive feedback on their writing. Against this backdrop, it seems that many EFL teachers of younger learners in the Spanish educational context are simply unaware of the instrumental role that writing practice and written corrective feedback can play in the linguistic development of their pupils. The idea that engaging in both of these activities might actively contribute to children's second language development does not normally form part of current pedagogical agendas.

I.1. 1. The role of written corrective feedback in second language learning

This neglect of writing in young learner classrooms clashes with contemporary theory and research in the field of second language writing. Within the cognitively oriented 'writing-to-learn' strand of second language acquisition research (Harklau, 2002; Manchón, 2009; 2011b; Ortega, 2009a), writing is considered a crucial tool for second language development. It is argued that learners need to be given ample practice in writing in the L2 and to receive information on the accuracy and appropriateness of their written texts in order to foster L2 development (Ferris, 2010). One of the ways of doing

this is through the provision of written corrective feedback (WCF). Providing learners with written corrective feedback on their output is believed to activate cognitive processes including noticing, hypothesis testing and metalinguistic reflection, all of which are thought to contribute to the internalization and consolidation of new knowledge (Williams, 2012). By allowing learners to try out their developing knowledge of the L2 in writing, and by scaffolding this process with corrective feedback, teachers may be able to help them become more aware of what they know in the L2 and what they have still to learn about the language. From this perspective, raising learners' awareness of 'holes' in their linguistic knowledge and 'gaps' between their written production and subsequent input can be facilitative of interlanguage development (Schmidt, 2001; Swain, 1985). Written corrective feedback, therefore, might play a key role in instructed second language acquisition as a potential enhancer of attention to form (Van Beuningen, 2010). It is from this premise that the contribution of WCF to the linguistic development of younger learners would seem a worthwhile avenue to explore.

Writing is a difficult process for children even in their first language (L1). Aspects such as planning, text organization and a lack of metacognitive knowledge have been singled out as areas of difficulty for poor writers (Englert & Raphael, in Yarrow & Topping, 2001). In L1 instructional contexts, collaborative writing and peer-assisted learning have been found to benefit children's first language writing by increasing their engagement with the task, lessening cognitive overload through the immediacy of help, enhancing affective factors including interest and motivation and ultimately helping them to produce better quality texts (Yarrow & Topping, 2001). In second and foreign language contexts, research into collaborative writing with French immersion students (Swain & Lapkin, 2002; Tocalli Beller & Swain, 2005), and Spanish high school learners of English (Santos, López Serrano & Manchón, 2010), as well as with adults (Storch & Wigglesworth 2010; 2012; Yang & Zhang, 2010) has shown how the sharing of expertise and joint reflection on language use, or what Swain (2006) has called 'languaging', in the context of writing and feedback processing tasks, may help to alleviate the otherwise complex information processing demands made on individual writers.

Research with children of primary school age, however, remains scarce. A few available studies have shown that young EFL learners do appear to benefit from working collaboratively on written corrective feedback tasks (Cánovas, Roca de Larios & Coyle,

2015; Coyle & Roca de Larios, 2014;), at least in the short term, but further work is needed to elucidate whether the benefits alluded to in these studies lead only to improved accuracy in L2 writing or to language development over a longer period of time (Polio, 2012). Theoretical support for peer assistance is also strong, since sociocultural takes on language learning emphasize the socially constructed nature of linguistic knowledge through dialogic interaction. Joint deliberation on language is believed to help learners strengthen their knowledge of the second language. By engaging in collaborative discussion and problem solving, learners verbalize their thought processes, share ideas and expertise, and in the process co-construct their developing knowledge. Seen from both cognitive and sociocultural perspectives, the mutual scaffolding afforded by writing in collaboration with a partner and the pooling of linguistic resources during task resolution would appear to be a useful starting point to examine the language learning potential of written corrective feedback with young second language learners whose input processing capacity is known to be more limited than that of adult learners (Skehan & Foster, 2001).

I.1. 2. Model texts as a written corrective feedback technique

The above-mentioned studies of feedback processing with young learners have also shed light on the differential roles played by diverse feedback techniques on their processing and uptake of linguistic corrections. Both Cánovas et al. (2015) and Coyle and Roca de Larios (2014) contributed to the strand of research initiated by Hanaoka (2006a, 2006b, 2007) on the use of models as an example of an alternative, more discursive feedback technique than explicit error correction. The rationale for doing so was based on the notion that providing learners with a complete, well-written text would generate deeper reflection and discussion that would ultimately lead to more learning than simply providing the learners with visually salient crossed out corrections on the page. In fact, the use of model texts was found to allow the children to stretch their IL resources above and beyond simply finding ready-made solutions to the linguistic problems in their texts, by incorporating new lexis and content and improving the overall structure of their writing, a phenomenon which, in line with expanded notions of acquisition as ‘gradual and nonlinear changes in linguistic and metalinguistic behaviour’ (Sachs & Polio 2007:75), may be considered as advancing in their developing competence.

Regarding children's proficiency levels, however, the results of both of the above mentioned studies were not clear-cut. The expectation that higher proficiency learners might notice more than their lower proficiency peers, as pointed out by Qi and Lapkin (2001) and Hanaoka (2006b), was not fulfilled, as low proficiency children in both cases were found to have higher rates of noticing from the model but lower incorporation rates. In fact, the lower level learners benefitted less from the models than their higher proficiency peers when the language used in the feedback was overly complex for them (Cánovas et al. 2015; Coyle & Roca de Larios, 2014). This suggests that the potential value of model texts is likely to be enhanced when they are better tailored to match learners' current levels of second language competence.

In the same way, studies involving the use of model texts have also suggested a useful role for instruction in helping learners better exploit the advantages of this feedback technique, which requires further probing and thought on the part of the learners than when errors are unequivocally signalled for them in more explicit methods. Yang and Zhang (2010) called for intervention by the teacher during feedback comparison tasks to help focus learners' attention on specific linguistic issues, while the results of an earlier study led us to suggest that younger learners in particular need 'extended practice at the feedback comparison stage in activities designed to promote noticing and rehearsal so as to facilitate children's encoding of linguistic forms in long-term memory for future retrieval and use' (Cánovas et al., 2015:73). Considering the promising findings obtained so far with model texts, as well as the questions still surrounding the relationship between models and children's proficiency levels and the recommendations put forward regarding the need to accompany this type of feedback with instructional assistance, both of these issues would seem to merit further inquiry.

Drawing together the dimensions outlined above: (i) the potential of written corrective feedback to promote accuracy in writing and contribute to second language learning; (ii) the affordances of collaborative writing and feedback analysis, and (iii) the alleged benefits of instruction in the use of model texts as a written corrective feedback strategy with learners of different proficiency levels, the present doctoral thesis attempts to explore the language-learning potential of collaborative writing and feedback processing in supporting children's second language development. In doing so, we will consider what Manchón (2011b) has referred to as 'feedback for acquisition', that is, feedback

designed to engage learners in linguistic processing that might lead to the development of knowledge beyond short-term improvements in accuracy.

I.1. 3. Limitations in studies of written corrective feedback

I.1. 3. 1. Feedback studies focusing on improvements in accuracy

A great deal of research on WCF has been carried out in response to Truscott's (1996) scepticism regarding the role of feedback in facilitating language acquisition. It was his contention that the benefits of explicit knowledge resulting from error correction are limited and can lead only to superficial 'pseudo learning' (p345) rather than to the development of implicit L2 knowledge. As a result, many feedback studies initially sought to investigate whether exposure to different types of feedback could impact on L2 learning. A wealth of experimental and quasi-experimental research focused primarily on measuring the accuracy of learners' revised texts after receiving feedback (see Bitchener, 2012 and Bitchener & Storch, 2016 for a review). The results of these studies, however, were uncertain and incomplete. Although some researchers reported improvements in learners' written texts after the provision of feedback (Ashwell, 2000; Fathman & Whalley, 1990; Ferris, 1997; Ferris & Roberts, 2001), their work was criticized on the grounds that successful performance on a revised text cannot be taken as evidence of language acquisition (Truscott & Hsu, 2008). Later studies went on to examine the accuracy of learners' writing in *new* texts under the premise that acquisition could only be demonstrated by the maintenance of accuracy over a longer time period. Findings from studies on feedback that selectively targeted a limited number of discrete grammatical structures such as the article system (Bitchener, 2008; Bitchener & Knoch, 2010a, 2010b, Sheen, 2007), as well as those providing more comprehensive feedback on a wider range of linguistic errors (Van Beuningen, de Jong & Kuiken, 2012) revealed that improvements in accuracy in the production of new texts were sustained by learners over time.

Despite encouraging results, the above-mentioned studies have not been without their limitations. Firstly, the focus of this research was on quantifying the error ratios of learners' final written products after the provision of feedback in order to determine whether or not the feedback had been successful. However, placing the emphasis on

performance data may not be an entirely accurate reflection of learners' language development for a number of reasons. Firstly, as pointed out by Bruton (2009), quantifying learners' errors does not take into account the emergence of 'new' language errors, which might appear in learners' texts after exposure to feedback possibly as a result of hypothesis formation or testing and which, therefore, could not have been previously targeted. Secondly, the use of binary criteria in computing error counts ('correct or incorrect') also fails to take into consideration partial progress and minor improvements made by learners in the process of acquiring a language form (Van Beuningen, 2010). Finally, product-oriented studies also fail to consider how individual learners might respond to feedback (accepting or rejecting it) or what cognitive processes they engage in while analysing it. Consequently, this group of feedback studies cannot provide insights into *how* and *why* learners potentially benefit from feedback, nor what individual and contextual factors might influence their responses to different types of feedback (Bitchener & Storch, 2016).

I.1. 3. 2. Studies focusing on feedback processing

Recently, a growing number of studies have begun to focus their attention on the nature of learners' cognitive engagement with feedback. This process-oriented research connects the examination of learners' revised texts with the cognitive mechanisms they activate during feedback processing in order to provide a more detailed picture of why WCF may or may not be effective in particular contexts. Using alternative feedback strategies such as reformulations and model texts (Adams, 2003; Hanaoka, 2006a, 2006b, 2007; Hanaoka & Izumi, 2012; Qi & Lapkin, 2001; Swain & Lapkin, 2002; Tocalli-Beller & Swain, 2005; Yang & Zhang, 2010), as well as direct methods such as error correction (Sachs & Polio, 2007) or indirect methods like editing symbols (Storch & Wigglesworth, 2010; Wigglesworth & Storch, 2012), these studies have attempted to ascertain how processes such as noticing and metalinguistic awareness, as well as individual attitudes and beliefs, may be critical in determining the impact of feedback on learning outcomes.

For the most part, process-oriented studies use a similar research design involving a multi-stage task performed over several days that comprises an initial writing stage, followed by feedback comparison task and a final stage involving the rewriting of the learner's original text. A delayed revision task was also included by some researchers to account

for learners' retention of feedback over a longer time period (Hanaoka, 2007; Storch & Wigglesworth, 2010; Wigglesworth & Storch, 2012). Measures used to gather data have included think-aloud protocols, note taking, stimulated recall or collaborative dialogue, all of which are expected to offer a window into learners' internal mental processing at different phases of the multi-stage task. The externalization of learners' internal processing has been uniformly operationalized as Language-Related Episodes (LREs), defined as "any part of the dialogue where learners talk about the language they have produced and reflect on their language use" (Swain and Lapkin, 2002, p. 292) and Problematic Features Noticed (PFN) (Hanaoka, 2006a). These constructs are used to illustrate the linguistic focus of the problems experienced by learners when producing their initial texts (lexis, form, discourse), together with the features they notice when comparing those texts with the feedback received. The ideational focus of learners' attention has also been contemplated through the use of Content-related episodes (CREs) (Yang & Zhang, 2010). In the revision task at stage 3, the emphasis has been on identifying the outcome of feedback processing as reflected in learners' uptake (or not) of solutions noticed from the feedback.

Regardless of the specific feedback technique used or of the participants involved, all of these process studies attempt to establish some sort of sequential connection between the different stages of the writing, feedback analysis and rewriting tasks. This has meant identifying: (i) the linguistic difficulties experienced by learners while writing; (ii) the solutions offered by the feedback to those problems, and (iii) their successful incorporation (or not) in the learners' revised texts. There is no denying that this research has given us important insights into learners' processing of different types of feedback, however, it is not without its limitations. To date, the vision offered by this group of studies is fragmentary and incomplete. With few exceptions (eg Qi & Lapkin, 2001), most studies have not fully accounted for learners' cognitive processing behaviours across the different stages of the writing and feedback tasks. Some studies focusing on reformulations as a feedback technique have disregarded learners' cognitive efforts to produce output in the L2 at stage 1, and have restricted their analyses to counting the number and type of corrections made by learners (Adams, 2003; Sachs & Polio, 2007; Storch & Wigglesworth, 2010; Tocalli-Beller 2005), or the accuracy and complexity of learners' revised texts (Wigglesworth & Storch, 2012).

On the other hand, researchers working with models have examined the problems learners noticed during the writing of their original texts and analysis of the feedback with rather a narrow lens. These authors have confined their analysis of the data to quantifying the linguistic focus and number of problems learners identified and then relating them to changes in learners' revised texts, without attempting to delve further into the processes underlying these surface changes (Hanaoka, 2006a; 2006b; 2007; Martínez Esteban & Roca de Larios, 2010; Yang & Zhang, 2010). When attempts have been made to uncover learners' active mental processes, the data analysis has been restricted to examining exclusively their unsolved overt and covert problems (PFN which do not surface in their written texts), without contemplating the noticing which can be triggered by problems learners solve themselves or problems they fail to acknowledge (Hanaoka & Izumi, 2012). Similarly, during feedback, learners' noticing from models has been described linguistically and computed numerically as noticed or unnoticed (Hanaoka, 2006b; Martínez Esteban & Roca de Larios, 2010; Yang & Zhang, 2010) without further exploration of the depth of processing involved or the strategies deployed. Likewise, at the rewriting, the learners' final texts have been coded using 'all or nothing' criteria, that is, the uptake (or not) of corrections or changes. This is true for research both with models (Hanaoka, 2006a, 2006b; 2007; Hanaoka & Izumi, 2012), and reformulations (Adams, 2003; Swain & Lapkin, 2002; Tocalli-Beller & Swain 2007, Yang & Zhang, 2010), and thus replicates the restrictive 'correct or incorrect' criteria of accuracy-based studies.

I.2. Aim of the Study

In the light of this situation, it is our contention that to contribute to current insights into the language learning potential of written corrective feedback, some degree of comprehensiveness should be brought to the process-oriented research strand. Following Bitchener and Storch (2016), it is necessary to cover the range of possibilities available to learners at each point of the writing, feedback and revision cycle, from output to input processing through to modified output. By doing so, we might develop our understanding of why and where exactly some learners fail to succeed across the multiple stages of the task. For this reason, the aim of this doctoral thesis is to present a systematic classification of the diverse routes or trajectories that learners follow across the writing, feedback processing and rewriting tasks in order to broaden our understanding of how different clusters of linguistic and cognitive processes, activated sequentially within the framework

of the multi-stage task, might contribute differentially to improvements in children's writing and second language development. Theoretically, this proposal is grounded in the output hypothesis (Swain, 1985; 1995, 1998, 2000), the noticing hypothesis (Schmidt, 1990; 2001) and Gass's (1997) model of input processing, which together provide a convincing explanation of how the provision of written corrective feedback on L2 writing can advance second language learning. From an empirical perspective, the limitations outlined above justify the need to extend the phenomena investigated to cover a wider range of behaviours and possibilities than those currently investigated in the existing literature.

Applying this proposal to younger language learners at initial stages of second language learning means, for example, expanding the range of problems identified during the writing stage beyond the solved/unsolved dichotomy in prevailing research to include problematic features in children's written output, which they do not necessarily report but which, nevertheless, might be targeted in the feedback, as well as those instances when they attend to new linguistic or ideational content that is not present in their original texts. Similarly, at the feedback comparison stage, our understanding of children's cognitive processing could be strengthened by accounting not only for what is noticed from the feedback, but also for what is apparently unnoticed or only partially noticed, as well as the strategies they use to do so. Finally at the revision stage, it is crucial to document the entire spectrum of linguistic changes that younger learners make to their revised texts. This means using a more inclusive set of criteria to account for what is correct or incorrect in children's writing, and for minor improvements as well as potential losses. This approach takes into consideration recent recommendations regarding the way second language development might be operationalized to cover the accurate use of language forms, and more importantly gradual changes in the complexity of linguistic output and in the increase of metalinguistic knowledge (Sachs & Polio, 2007; Van Beuningen, 2010). Ultimately, it implies rethinking the concept of language development to include the idea of 'learning in progress' (Leeser, 2004).

Assuming the challenge of investigating the language-learning potential of written corrective feedback with young EFL learners will involve establishing connections between the problem-solving (or lack of) that children engage in when producing a collaboratively written text, their subsequent processing of feedback in the form of a

model text and the possible outcomes of both of these previous activities on the quality of their written output. Doing so over a longer time period and with instructional assistance may provide some insight into the influence of sustained engagement with writing and feedback on children's second language development.

This broad challenge translates into a series of specific research questions, which are outlined below:

- 1) What trajectories do young EFL learners engage in when writing narrative picture stories, analysing feedback in the form of a model text and rewriting their original texts? Can the trajectories deployed by the children be differentiated in terms of their language-learning potential? Is the children's use of trajectories with more and less language-learning potential mediated by instruction and/or proficiency?
- 2) How are the trajectories used by the children related to changes in the acceptability and comprehensibility of their written output? To what extent is this mediated by a) instruction and b) proficiency?
- 3) Is there evidence of second language development in the children's written output as a result of exposure to model texts? If so, is this mediated by instruction and/or proficiency?

I.3. Thesis Outline

The thesis is organized in five different chapters. Chapter 1 describes the rationale for the present research and offers a brief overview of the role of written corrective feedback in second language learning with special emphasis on younger learners. Some limitations in current research are highlighted before setting out the aims of the thesis.

Chapter 2 comprises the theoretical and empirical background to the study. The language learning potential of written corrective feedback is explored within a cognitive framework of learning, focusing especially on the role of noticing and output and the influence of external and internal factors on the cognitive processing of feedback by younger learners. The chapter concludes with the examination of how current research on models has analysed the sequential stages of writing and feedback processing in order to highlight some shortcomings that this thesis aims to address. These are brought together in a final

section on the contributions of the present thesis to existing empirical research on the processing of written corrective feedback.

Chapter 3 describes the Method and includes information on the participants and procedures used to collect and analyse the data qualitatively. Examples are provided to illustrate the micro analytic procedure used to identify the trajectories and connect them with the children's written output and language development.

In Chapter 4, the results for the three research questions are reported.

Finally, in Chapter 5, the main findings of the thesis are summarized and salient issues are discussed in connection with existing literature. Pedagogical implications are also proposed for the use of models as a written corrective feedback technique in young EFL learner classrooms. The limitations of the thesis are then identified and suggestions made for further research.

Chapter II:

Literature review

II.1. The Language Learning Potential of Written Corrective Feedback

Written corrective feedback (WCF) can be pondered from two theoretical and methodological perspectives both of which have ultimately different goals. Studies of L2 writing have seen WCF as a means of helping learners to improve the quality of their written texts and to develop their literacy skills in an additional language. Within this ‘learning-to-write’ dimension, feedback is considered as a means of enhancing learners’ overall competence in producing effective pieces of writing (Ellis, 2010; Ferris, 2010). SLA- oriented interpretations, on the other hand, take a different stance on WCF and emphasize its potential as a pedagogical tool than can facilitate learners’ linguistic development. This conception of WCF is closely aligned with the writing-to-learn strand of theory and research (Manchón, 2009, 2011b; Ortega, 2009a), which is based on the premise that second language learning can be fostered when learners receive external input on their written errors in the context of a communicative writing task. This claim is not uncontroversial, both theoretically and empirically, and while numerous studies have attempted to elucidate the role of WCF in language acquisition, research has yet to provide a definitive answer as to whether and how it might impact on interlanguage development (Bitchener, 2012). The present study, framed within the writing-to-learn research strand, attempts to contribute to the debate surrounding the language learning potential (LLP) of written corrective feedback.

The theoretical rationale underpinning the view that WCF can be useful for second language learning is informed by both cognitive and sociocultural perspectives on learning. Cognitive theoretical frameworks incorporate influential SLA concepts and hypotheses including the focus-on-form paradigm (Doughty & Williams, 1998; Long, 2000), skill learning theory (De Keyser, 1998, 2001, 2007), the Output hypothesis (Swain, 1985, 1995, 1998, 2000, 2005) and the Noticing hypothesis (Schmidt, 1990, 1994, 2001), all of which provide crucial insights into the potential benefits of WCF for second language learning. Sociocultural theory has similarly advanced our appreciation

of the language learning potential of WCF through the importance attached to cognitive development as a socially situated activity. Inherent to this idea is the Vygotskian premise that the individual appropriation of linguistic knowledge can be co-constructed through collaborative talk during problem-solving tasks. In what follows, these theoretical positions will be discussed in greater detail in an attempt to explore the issues surrounding the influence of WCF on learners' development of linguistic knowledge.

II.1.1. Cognitive perspectives on the language learning potential of written corrective feedback

Theoretical accounts of second language learning from a cognitive perspective have attempted to describe the processes involved in the acquisition of second language knowledge. Traditionally, the focus of theory and research in the field has been on oral communication with writing assigned a secondary role as the end product of acquisition rather than as a central contributor to the process. Recently, however, a growing number of SLA researchers have made a strong case in favour of the affordances for language learning of written communication especially in connection with the provision of written corrective feedback (Bitchener, 2012; Manchón, 2011b; Polio, 2012; Williams, 2012). The arguments stated in support of the role of writing in second language learning draw on the idea that learning may be brought about precisely by the conditions inherent to the writing process (Bitchener, 2012; Polio, 2012; Williams, 2012). In this respect, the off-line nature of writing can give learners more time to reflect on language and to exercise greater control over the allocation of their attention to different aspects of language (lexis, syntax, ideas) both during and after written production. The lack of time constraints might also facilitate the noticing of gaps between their written output and subsequent feedback and the formation of more target-like form-function mappings. Similarly, written output and the feedback provided on it constitute a permanent visual record of learners' performance, which, in contrast with the transient nature of spoken language, allow greater scope for self-pacing and recurring analysis of language during cognitive processing (Ortega, 2009b). Thus, the temporal and visual factors involved in written communication would appear to be central to the language learning potential of WCF since they allow, in principle, for sustained attention to language form, which has been singled out as a key process in second language learning.

II.1.1. 1. WCF and attention to form

Cognitive accounts of second language learning coincide in highlighting the role of attention to language form in fostering interlanguage development. It has long been acknowledged that comprehension alone is insufficient to ensure language acquisition. The seminal research carried out in the Canadian immersion programmes provided convincing evidence to demonstrate that second language learners are capable of understanding messages using contextual clues without ever engaging in linguistic processing (Swain, 1985). Similarly, the mere production of output, both orally and in writing, is no guarantee in itself that learners will progress beyond basic semantic processing, since it is possible to communicate adequately even without linguistic accuracy (Révész, 2007). In instructional L2 contexts, therefore, it is widely accepted that some form of attention to the formal features of the L2 while engaged in communication is necessary to accelerate the process of language acquisition (Ellis, 2005; Long, 2000; Long & Robinson, 1998; Norris & Ortega, 2000). One of the ways of merging attention to form and meaningful language use is by providing learners with information on their language errors in the context of a written communication task. WCF has thus been identified as a valuable tool for promoting focus-on-form by specifically directing learners' attention to problems in their written output. This consciousness-raising function of WCF, in combining attention with some degree of subjective awareness, may push learners to engage in the type of morphosyntactic processing which is thought to advance language learning.

II.1.1. 2. WCF and noticing

The critical role assigned to the concepts of attention and awareness in current cognitive theorizing on WCF is directly linked to the Noticing Hypothesis (Schmidt, 1990; 1994, 2001). Central to this hypothesis is the idea that noticing is a crucial cognitive process, which can facilitate language development when learners consciously focus their attention on specific features of the second language during input processing and output production. In what is known as the 'weak version' of his hypothesis, noticing, as defined by Schmidt (2001), refers to 'elements of the surface structure of utterances in the input – instances of language rather than any abstract rules or principles of which such instances

may be exemplars' (p5). As such, a distinction is made between noticing as the sensory perception of surface features in output and WCF, and noticing at the level of metalinguistic awareness or understanding. While metalinguistic understanding is not a prerequisite for language development, it is Schmidt's contention that without some degree of conscious awareness of the features of the L2, learning is not likely to occur. However, the roles of consciousness and understanding are not clear-cut and have been openly contested by proponents of the idea that language can be acquired implicitly through the process of detection i.e. the registration of selected information in memory without conscious awareness (Tomlin & Villa, 1994). Other authors have also affirmed that some degree of understanding is necessarily involved in the registration of linguistic exemplars in the learner's developing system (Truscott & Sharwood Smith, 2011). Despite these objections, Schmidt's view that noticing is a prerequisite for language learning is commonly accepted in the field (Izumi, 2003).

Noticing, then, is thought to result from learners' attention to and awareness of language input provided in the form of positive and negative evidence. However, noticing has also been linked to the problem-solving activity involved in producing written output when learners search for appropriate linguistic resources to express their intended meaning (Manchón & Roca de Larios, 2007). The relationship of noticing to general SLA processes of input and output has given rise to formulations of different types of noticing which, considered collectively, provide theoretical support for the usefulness of WCF in promoting language development. Izumi (2013) outlines four different types of noticing which help to explain how the processes learners engage in during output production and input processing might enable them to convert input into intake for second language acquisition.

i. Noticing as a form-function relationship

This fundamental type of noticing refers to noticing both the form and meaning of a particular linguistic feature in the input and, in particular, how it is used in a specific context. This form-function relationship is important as the noticing of either form only or meaning only could lead to partial learning and the inability to use the L2 feature noticed either appropriately or accurately for communicative purposes. WCF can profitably provide learners with evidence of form-function mappings that could lead to the formation of new hypotheses or the consolidation of existing ones.

ii. *Noticing the gap between the interlanguage and the target language*

An essential role of noticing is to make learners aware of a mismatch between their own output and that of a competent language user. This concept is commonly known as ‘*noticing the gap*’ (Schmidt & Frota, 1986). Underlying the concept is the idea that the ‘gap’ must be consciously attended to so that input can be converted into intake (Schmidt, 1990). In processing language input, however, learners may sometimes notice only part of a linguistic feature, (for example noticing a noun phrase without its accompanying collocation) resulting in partial and incomplete learning. Hanaoka (2007) has argued that this phenomenon, which he denominates the ‘scope of noticing’, is largely dependent on the learners’ prior L2 knowledge. The more prior knowledge of form the learners have, the more likely they are to notice the gap between their version of a linguistic feature and how it is used in the surrounding input. When a learner’s previous knowledge is patchy or inexistent, noticing of the input may be deficient and show up as problems in their output. In complementing the noticing hypothesis, Ellis (1995) uses the term *cognitive comparison* to capture the idea that learners also need to notice when their output is similar or comparable to the input they receive. In his opinion, noticing similarities between one’s output and WCF can also lead to the strengthening of existing L2 knowledge through the process of hypothesis confirmation.

iii. *Noticing holes in one’s own interlanguage*

The noticing of a lexical or grammatical ‘hole’ in one’s own interlanguage may occur during output production, as noted by Swain (1998), when learners realize they lack the linguistic resources necessary to communicate an intended message. This type of self-initiated noticing is held to be important as it can prime learners to search for the missing information in subsequent input, thus promoting noticing of new language forms.

iv. *Noticing a gap in one’s own ability to use the L2 with precision*

This type of noticing is related to the previous one in that when attempting to produce output learners may realize that they do not have the means to express their intended message fully or appropriately. While Swain (1998) uses the terms gap and hole almost identically, Izumi (2013) clarifies the subtle difference

between the complete absence of a form in the learner's linguistic repertoire (hole) and the ability to express something partially and imprecisely (gap), which may lead to an internal search for a solution while attempting to produce the message. This internally activated noticing differs from noticing the gap in input that is provided externally, and generally shows up as overt problems in learners' spoken or written output. These problems can then be targeted by corrective feedback.

II.1.1. 3. WCF and pushed output

The language learning potential of WCF is also supported by Swain's Output Hypothesis (1985, 1995, 1998, 2000, 2005), which conceives of a competence-expanding role for production (Ortega, 2009b). The act of producing language (speaking or writing) constitutes not only the outcome of second language learning but is also a vital part of the process (Swain, 1985). The Output hypothesis maintains that, in addition to receiving L2 input, learners have to be pushed to process language more deeply in order to produce comprehensible output, i.e., semantically coherent, syntactically accurate and appropriate sentences. The hypothesis has taken shape through the description of four ways in which output might play a role in the process of L2 learning (Swain, 1995). These include providing learners with opportunities to (i) formulate and test hypotheses about the target language grammar and obtain subsequent feedback on the encoding of meaning in the L2; (ii) generate metalinguistic reflection that allows them to reflect on form-function relationships; (iii) automatize their encoding procedures; and (iv) notice the gap between what they want to express and what they can express. The Output hypothesis, then, highlights the idea that optimal second language learning should include opportunities for meaningful language use both in speaking and writing activities.

Engaging in language production that exceeds learners' current levels of competence is believed to be the kind of language use most likely to destabilize their internal interlanguage representations and create opportunities for language development (Ortega, 2009b). On the basis of these arguments, it is conceivable that the provision of WCF on written output may act as a catalyst for the successful allocation of learners' attentional resources. This viewpoint was subscribed by Swain (1991), who acknowledged that output alone would be inefficient in fulfilling the functions outlined above. She suggested that: 'if students are given insufficient feedback or no feedback regarding the extent to

which their messages have successfully (accurately, appropriately, and coherently) been conveyed, output may not serve these roles' (p 98).

In the writing sequence, then, producing written output is thought to prompt the noticing of forms that are absent from learners' IL (holes), together with those they have only partially acquired (gaps) (Izumi, 2013). Problems experienced during the course of written production may lead learners to reassess their existing L2 knowledge through processes of hypothesis testing and metalinguistic reflection (Swain, 1985, 1995, 2000). Subsequently, written corrective feedback can facilitate the noticing and consolidation of new or existing form-function relationships, and heighten awareness of mismatches between the IL and the TL, encouraging knowledge internalization and restructuring (Williams, 2012). In this respect, writing may profitably enhance second language learning by connecting learner internal factors (output processing) with external factors (feedback processing) via processes of noticing (Hanaoka & Izumi, 2012; Izumi, 2013). Providing children with opportunities to engage in writing tasks and to receive corrective feedback would, therefore, seem paramount for furthering their second language development.

II.1.1. 4. Stages in the cognitive processing of written corrective feedback

In order to explain how the interplay between these multiple influences might impact on the development of second language knowledge, it is necessary to examine input and output processing through the wider lens of a commonly accepted model of second language acquisition. In attempting to do precisely this, Bitchener and Storch (2016) have drawn on Gass's (1997) integrated model of second language acquisition to describe the stages involved in the cognitive processing of a single WCF episode by which input is converted to intake. Their discussion provides a clear account of how the learner's developing system administers incoming L2 information in the form of WCF (Figure 1).

The first stage of the model is known as *apperception*. Before learners can profit from WCF on their writing they must first notice or apperceive the existence of a gap between their current IL knowledge and the L2 input. In order to trigger this process, learners must actively choose to attend to the feedback by (i) showing some degree of alertness or readiness to learn, (ii) orientating the focus of their attention towards language form and

not only meaning, and finally (iii) by detecting or cognitively registering the presence of feedback for processing purposes. Learners may then become aware of the mismatch between their output and the WCF, and depending on a series of individual (existing L2 knowledge; processing ability, motivation, proficiency, etc.) and external factors (explicitness of the feedback, previous learning experience; discourse complexity) may also (or not) come to understand the nature of the gap.

Importantly, input needs to be *comprehended* before it can be converted into intake and integrated into the learners' interlanguage system. For Gass (1997), however, comprehension is not conceptualized as an all or nothing phenomenon in which input is either comprehended by the learner or it is not. Instead, comprehended input is represented as a continuum that extends from the comprehension of meaning to the comprehension of linguistic form and structure. It is the latter that is essential for acquisition to occur and it is along this continuum that the different types of noticing described above (Izumi, 2013) can create opportunities for learners to advance from semantic to morphosyntactic processing at a deeper level of analysis.

Comprehended input is then internalized to become *intake* when learners compare their existing knowledge (their internalized L2 rules) stored in long-term memory with the feedback through processes of hypothesis formation and testing. In modifying their original output, learners will either confirm or reject their existing hypotheses. Hypotheses that are confirmed will help to consolidate existing L2 knowledge, or lead to the *integration* of new information into their developing system through processes of restructuring when a new hypothesis is confirmed. Alternatively, information derived from the feedback may be stored without further analysis until the learner has received more information to enable the confirmation of the hypothesis. Hypotheses, which are rejected when the learners realizes they are incorrect, exit the system.

However, this process may not be as straightforward as it seems. Simard, Gunette and Bergeron (2015) have shown how high school EFL learners often misunderstood the intent of corrections, especially with indirect WCF. They argue that 'if the learners cannot interpret the WCF they receive, as seemed to be often the case with indirect corrections, reflecting on language in an efficient manner (i.e. leading to insights about language) is hardly possible' (p. 248). Similarly, Qi and Lapkin (2001) suggest that understanding the

nature of problems identified while analysing feedback, or what they refer to as substantive noticing, is important in leading to improvements in written output. Along the same lines, Coyle and Roca de Larios (2014) report that the young EFL learners in their study misinterpreted linguistic elements that they had noticed in a model text but had only partially understood, leading them to use what they had noticed in ungrammatical language production. Full syntactic and semantic comprehension of WCF would seem then to be the key to driving forward second language learning.

Consequently, the written *output* produced by learners in response to WCF, as well as new output they might produce, can offer some indication as to whether or not learners have begun to develop new L2 knowledge. Inaccurate output will naturally require further exposure to feedback for the learning process to proceed. However, it might also be symptomatic of a delayed effect of the WCF, which could then emerge in future output. While the production of accurate output as a consequence of feedback processing is a signal that language development has begun, it may take further practice in retrieving and using new L2 knowledge obtained via WCF to fully consolidate and automatize it over time. This would explain the inconsistency with which learners sometimes use newly acquired L2 forms on different occasions (Bitchener & Storch, 2016). Importantly, this type of irregularity in learners' language use is taken as suggestive of progress. As Ortega (2012) remarks: 'any SLA notion of progress has always been nonlinear, gradual, unevenly paced and often proceeding through interim nontargetlike (but developmentally helpful) solutions' (p408). This idea is pertinent to the consideration of the written output of young second language learners, which is likely to deviate from target language norms.

The cognitive account of second language acquisition outlined in Gass's (1997) model is based on the principle that explicit knowledge (which can be acquired through WCF) is incorporated into learners' interlanguage through processes of noticing, comprehension, intake and integration. This view stands in direct opposition to proponents of the non-interface position who have theorized that explicit knowledge cannot be transformed into implicit knowledge to be deployed during on-line language production where it can only fulfil a monitoring function (Krashen, 1982). As a result, the correction of learners' errors is seen as an ultimately futile practice that can only ever lead to short-term improvements in accuracy but not to second language learning (Truscott, 1996). By comparison, theoretical support for the interface position comes from skill acquisition theories which

are grounded in the notion that language can be processed either explicitly (controlled processing) or implicitly (automatic processing) and that learning involves the gradual proceduralization of explicit knowledge (Anderson, 1983). Therefore, through the prolonged practice of written (or oral) output and subsequent exposure to corrective feedback on their language production, learners can progressively automatize their explicit L2 knowledge making it available for acquisition (De Keyser, 1997).

Contrary to Truscott's claims regarding the detrimental effects of error correction, numerous studies have shown that the provision of WCF is useful in promoting language learning. Empirical evidence for the successful role of WCF in promoting accuracy in new pieces of writing (which is taken as evidence of learning) comes from research, which has targeted learners' use of specific forms (e.g. article system) (Sheen, 2007, 2010). In a series of tightly controlled experimental studies, Bitchener (2008) and Bitchener and Knoch, (2008, 2009, 2010a, 2010b) have shown how different combinations of feedback techniques involving direct correction and metalinguistic explanations led to long-lasting improvements in learners' accurate use of the targeted features. Similarly, Ellis, Sheen, Murakami and Takashima, (2008) found that two groups of Japanese university students who received focused and unfocused feedback on the English article system outperformed a control group on a new piece of writing. Sheen (2007, 2010) obtained similar results with intermediate ESL students of various first language backgrounds and with oral and written feedback. Taking this a step further in a study of comprehensive WCF with Dutch high school students, Van Beuningen, de Jong and Kuiken (2012) provided new evidence in support of the language learning potential of WCF by showing the durable effects of both direct and indirect feedback over learners' self-editing and writing practice on the writing of a new text one month after the delivery of feedback.

However, it is also true that learners' relative success in taking full advantage of the opportunities for acquisition that WCF offers them will also depend on a number of internal and external mediating factors. These are discussed below.

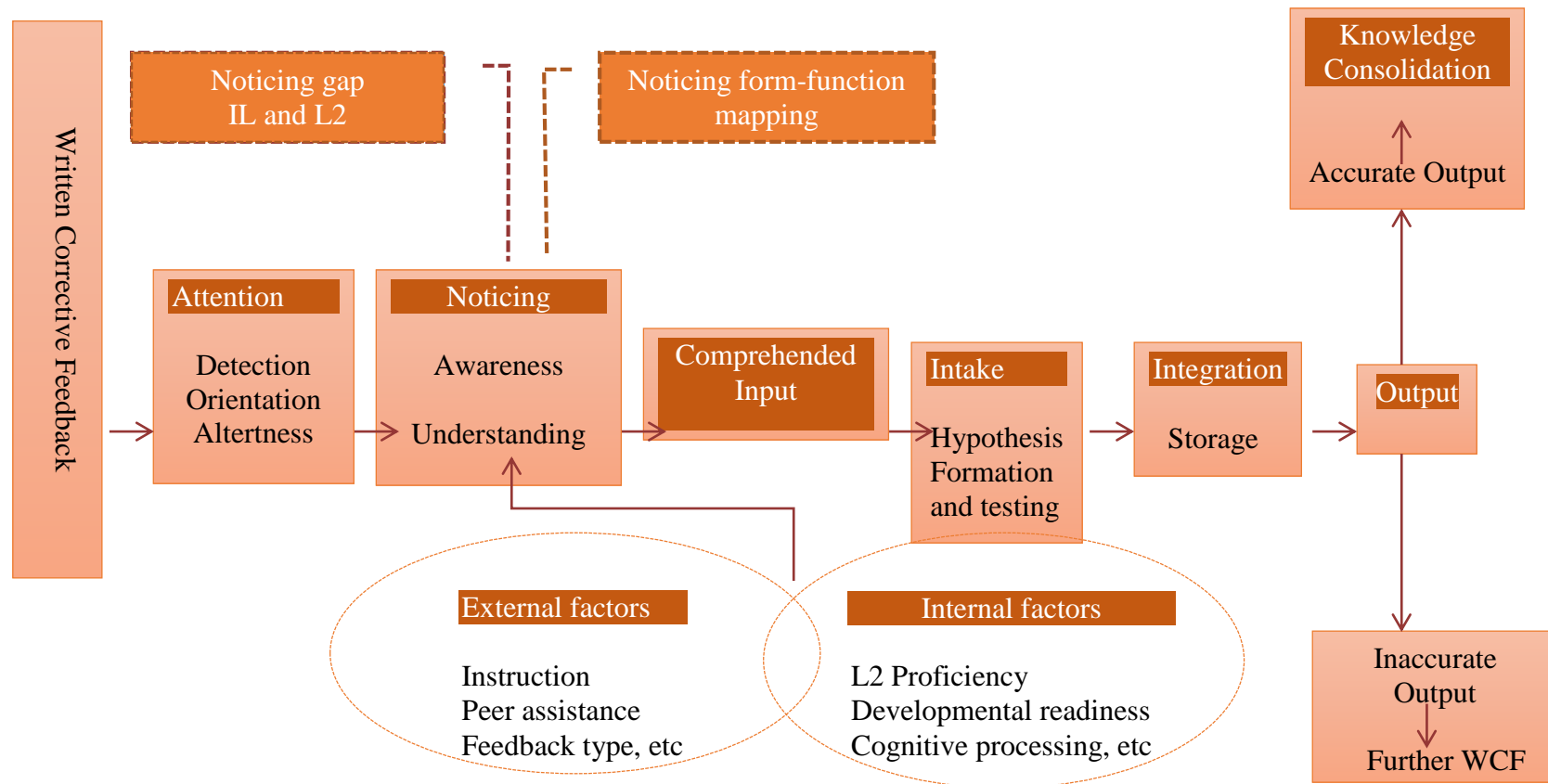


Figure 1. Stages in the cognitive processing of WCF (Adapted from Bitchener & Storch, 2016 p.20).

II.1.1. 5. The influence of internal and external factors on the cognitive processing of WCF

Learners' responses to WCF and their cognitive processing of input are potentially mediated by a number of interrelated factors, both internal to the learner and external. Internal factors encompass the learners' general cognitive ability including their information processing capacity, their level of L2 proficiency and developmental readiness, as well as their affective engagement with the WCF. External mediating factors might include the influence of different feedback types, the differing aims of instructional approaches and the dynamics established in social relationships (Bitchener & Storch, 2016; Izumi, 2013). The interaction between all these factors will likely determine the outcome of feedback processing.

II.1.1. 5. 1. Learner-internal factors

II.1.1. 5. 1. 1. Children as limited capacity processors

The extent to which learners notice, comprehend and integrate new L2 forms from WCF into their developing interlanguage system will depend largely on their ability to process information in their working memories. The limited capacity model (Skehan, & Foster, 2001) predicts that learners may experience attentional constraints in processing feedback when they have less capacity in their short-term memory. According to this model, cognitively complex tasks occupy learners' available attention and memory resources and draw their attention away from linguistic forms as they focus more on message content. Additional resources required to engage in successful problem solving while analysing feedback may place heavy demands on learners' working memory as they struggle to identify and solve linguistic problems. This would appear to be especially true for low proficiency learners since their restricted knowledge of the L2 may result in cognitive overload due to the effort involved in simultaneously having to juggle competing demands to (1) attend to meaning and form, (2) notice holes and gaps in their own output and match them with the feedback, and finally (3) act on that information to formulate and try out hypothesis about accurate language use. In this sense, children, as limited capacity processors (McLaughlin, Rossman & McLeod, 1983), are likely to experience difficulties at even the initial stages of feedback processing since their depleted L2

knowledge may force them to rely on semantic and contextual clues, thus inhibiting attention to form (Izumi, 2003). In this sense, young learners may only engage in shallow rather than deep processing of input that requires greater awareness, more focused attention and more cognitive effort in order to establish meaningful relationships between the L2 items and their current knowledge (Leow, 2015).

According to Van Patten (2004), input processing consists of making form-meaning connections in real time comprehension. In explaining how learners process second language input, he proposed the ‘primacy of meaning’ principle, which sustains that learners are driven to derive meaning from input before they process it for form. Under this principle, learners’ attention is generally directed to basic content words as the principle source of referential meaning. Therefore, the more communicative value an L2 feature has the more likely it is to be processed. In general, this hypothesis proposes that (i) morphology and syntax are liable to be ignored at the expense of lexis, (ii) lexical encodings are processed before synonymous grammatical ones (e.g. yesterday before –ed) and (iii) semantic encodings are processed before forms with less communicative value (e.g. he before the third person –s). In practice, this means that children ‘may not attend to and notice a particular structure if they are processing the L2 input primarily for meaning and this attention to meaning exhausts most of their resources’ (Uggen, 2012, p 511). In this respect, Van Patten (2004) has suggested that the process of second language acquisition will involve overcoming these psycholinguistic constraints in input processing and developing new strategies that are more operative in the second language.

II.1.1. 5. 1. 2. Second language proficiency

Whether or not learners are successful in processing WCF is also largely dependent on their level of proficiency in the second language. It follows that higher proficiency learners are likely to engage in writing and input processing activities with increased levels of effort and attention and, therefore, may do so more successfully. In fact, research into input and output processing tasks has provided evidence to show that learners’ responses are mediated by their level of L2 proficiency. Suzuki, Itagaki, Takagi and Watanabe (2009) found that Japanese EFL high school and university students who wrote a story and then read a model text subsequently recalled the model text more accurately than those students who had not previously produced written output. However, the lower

proficiency learners in both conditions showed lower recall scores. The authors suggest that this was a consequence of their limited memory capacity since the learners had to simultaneously attend to the input (model), temporally process the information attended to (using working memory) and store some of this data in their long-term memory. In attempting to retrieve the stored information, learners were required to access their explicit linguistic knowledge, which involved controlled and effortful processing, a task that proved to be more problematic for the weaker, less proficient students. This led the authors to propose that there may be a threshold of proficiency level for learners to benefit from output.

In their study of reformulations with two adult learners at different proficiency levels, Qi and Lapkin (2001) also found that the more proficient L2 writer of the two noticed more from the feedback, and that the 'quality' of this noticing was different. The less proficient learner was not always able to verbalize a reason for accepting a reformulation. They maintain that low proficiency learners may not be as capable of understanding the nature of the gaps they notice in the feedback and so benefit less from the information provided in the reformulation. Hanaoka (2006b) also found that the more proficient learner in his study noticed more from a reformulation and a model than the less proficient learner, although both incorporated about the same amount of features. Studies involving younger learners have produced similar results. While Cánovas et al. (2015) found that higher proficiency children noticed and incorporated more from a model text, Coyle and Roca de Larios (2014) observed that the lower proficiency children in their study noticed more problems with their own output than the higher-level children, possibly as a result of experiencing a greater number of difficulties in the first place. Lapkin, Swain and Smith (2002) also noted differences in the dialogues established between higher and lower proficiency immersion students in Canada during jigsaw and dictogloss tasks. The stronger proficiency pairs engaged in more detailed noticing and richer collaborative interaction than their weaker counterparts and used the pronominal verbs that were the focus of both tasks more frequently.

Relating this to Gass's (1997) model of input processing, the quality of learners' noticing seems to depend on whether the available input is 'comprehended' by the learner (rather than just apperceived) and to what extent. As mentioned above, Gass (1997), conceives of comprehended input as a complex continuum of possibilities ranging from semantic

analysis to a more detailed syntactic analysis by which input is ultimately transformed into intake. Developing this idea further, Izumi (2003) situates the learner-internal processing mechanisms responsible for activating syntactic analysis at the interface between comprehended input and intake, specifically in the noticing of mismatches between the learner's IL and the L2. Hence, the degree to which the input data is comprehended, either for purposes of communication or for deeper structural analysis, may determine whether or not the input is fed into the intake component and integrated into the learner's developing system. It follows that learners with low levels of L2 proficiency may have not advanced sufficiently along the continuum to be sensitized to the opportunities for processing language form presented in grammatical tasks and written corrective feedback. Consequently, noticing between learners of different proficiencies will differ in both scope and complexity.

II.1.1. 5. 1. 3. Developmental readiness

The limited processing ability of younger, less proficient learners is further complicated by the notion that they may not be developmentally ready to fully benefit from the advantages offered by WCF or by formal instruction. The teachability hypothesis (Pienemann, 1984, 1989) suggests that learners will only acquire features for which they show developmental readiness. The notion of 'readiness' is defined as the gradual growth and maturity of their syntactic processing abilities. This view was grounded in evidence from studies carried out initially on the emergence of German word order, which was found to be implicationaly constrained, meaning that learners tended to progress across stages without skipping any of them. The same rationale was then used to account for initial developmental sequences uncovered for the formation of English questions (Pienemann, Johnston and Brindley, 1988). Progress through the developmental stages was held to be dependent on learners' 'readiness to learn'. Pienemann (1984, 1989) thus proposed that features of the L2 that were beyond a learners' current stage of development would be impervious to the effects of instruction. Similarly, Truscott (1996) reasoned that for feedback to be potentially effective, it should be closely aligned to learners' current developmental level to avoid presenting learners with grammatical structures that they would be unable to acquire.

However, it has also been pointed out that the research base on developmental stages of acquisition is not *directly* transferrable to instructional settings or the provision of feedback (De Keyser, 1998; Ellis, 1997). Results of research on the sequence order for the formation of English questions (Mackey, 1999; Spada & Lightbown, 1999) showed that instruction enabled some theoretically ‘unready’ learners to progress more rapidly through the stages, although without avoiding any of them. Spada and Lightbown (1999) looked at the accuracy and developmental progress shown by young French-speaking ESL learners in the use of interrogative structures before and after an instructional intervention on question formation and found that form-focused instruction and oral corrective feedback helped the children advance sequentially in their accurate use of English question forms. Similarly, Mackey (1999) and Mackey and Silver (2005) found that some theoretically ‘unprepared’ adult and child ESL learners were able to progress more rapidly to the stage immediately following their current developmental level, although they too were unable to ‘miss out’ any of the stages. Instruction, then and possibly also WCF, appears to speed up language development without altering it substantially.

A related area is the work carried out on the existence of a natural order in the acquisition of a set of English inflectional morphemes, (Dulay & Burt, 1974; Krashen, 1977). In a series of studies carried out in the 1970’s, the accuracy order in the use of certain morphemes such as the –ing form, plural –s, be copula, be auxiliary, the article system or inflectional verb endings, among others, was found to be similar for both younger and older learners in naturalistic settings regardless of their L1 background. The existence of an alleged natural order was also tested empirically in instructional settings with mixed results. Pica (1983) found that the rank order for the suppliance of morphemes in the obligatory contexts in which they were required was similar for three groups of adult Spanish L1 speakers in the United States in different exposure conditions: instruction only, naturalistic input only and mixed exposure. Similarly, no disturbance to the order was found for Japanese children and adolescents in formal EFL instruction (Makino 1979 in Goldschneider & De keyser, 2001). However, Sajavaara (1981, in Pica 1983) reported a disturbed order for instructed EFL learners in Finland, while Lightbown (1983) suggested that differences observed in the accuracy order of adolescent EFL learners in Quebec was due to the ‘distorted’ version of English the learners were exposed to in the

classroom, and a lack of communicative language practice, which led to minimum improvement over time in their accurate use of the L2.

In investigating Spanish EFL learners aged between 11 and 18 years old with differing amounts of classroom exposure, Muñoz (2006) found a similar ordering for the learning of grammatical morphemes, as well as evidence of an advantage for older learners in the rate of acquisition in comparison to the younger children in the study. In a series of studies carried out with Basque/Spanish bilinguals learning EFL in instructional contexts, (García Mayo & Lázaro Ibarrola, 2005; García Mayo, Lázaro Ibarrola & Liceras, 2005; Lázaro Ibarrola, 2002 cited in Lázaro Ibarrola & García Mayo, 2012), the authors reported that the morphosyntactic development shown by these learners accelerated around the age of 12, possibly as a consequence of the concurrent development of the pronominal system, which had seemed to obstruct the learners' accurate use of verbal morphemes. Morphological development was fully achieved at around age 15 when a possible ceiling effect seemed to prevent further improvement in the production of affixal morphemes. More recently, Lázaro Ibarrola and García Mayo (2012) analysed the morphosyntactic development of a group of CLIL learners aged 13 and again at age 15 and observed developmental progress in the accuracy and range of pronouns they used, as well as in their use of irregular past tense verb forms, together with higher rates of morphological accuracy than those shown by the non-CLIL students in their previous studies. This led the authors to venture that content-based instruction (together with other factors including motivation or aptitude) may have been a possible influence in helping the CLIL learners to surpass the ceiling effect reached by their counterparts in mainstream EFL classes.

In considering the research evidence on developmental sequences, Ortega (2009b) has suggested that although some aspects of the L2 such as word order stages and morphology may be subject to psycholinguistic readiness, 'for other areas of grammar, instruction above the cutting edge of a given interlanguage may accelerate development' (p138). Picking up on this idea, Izumi (2013) speculates as to the role that metalinguistic awareness brought about by explicit instruction might play in the helping learners to improve their noticing from input and negotiate their way more rapidly through developmental stages. Both views support the general consensus that although instruction and (written) corrective feedback might not affect the route of acquisition, they seem to

impact positively on the rate with which L2 grammar is acquired and the levels of ultimate attainment achieved.

II.1.1. 5. 1. 4. Affective engagement with written corrective feedback

In addition to the learner-internal cognitive factors influencing learners' attention and responses to written corrective feedback, affective variables may equally mediate how learners engage with corrections, reformulations or model versions of their work. Learners' experiences in the classroom with writing and corrective feedback are likely to influence their motivation and beliefs regarding the value of these activities and the interest they invest in attending to and processing the input (Bitchener & Ferris 2012). In this respect, the notion of learner *engagement* has received increasing attention from researchers who have analysed the cognitive, behavioural and affective responses shown by learners towards different types of feedback. Affective engagement has been examined from different perspectives including learners' acceptance or rejection of feedback, as evidenced in episodes of cognitive conflict (Tocalli- Beller & Swain, 2005), the interactional patterns of learners' collaborative discussions (Storch & Wigglesworth, 2010; Wigglesworth & Storch, 2012), and learners' attitudes and beliefs towards feedback (Han & Hyland, 2015).

Research on WCF conducted within a sociocultural framework has addressed the more attitudinal dimension of feedback processing. In examining the personal responses of immersion students to reformulations of their written work, Tocalli-Beller and Swain (2005) have shown how the learners sometimes faced a situation of cognitive conflict when they disagreed with the changes made by the reformulator or were uncertain as to why they had been made. These occasions when learners questioned the reformulated text were found to act as an impetus for learning by pushing learners to re-examine their use of language, clarify and verbalize their thoughts and provide reasons to justify their own criteria. Likewise, using the acceptance or rejection of feedback as units of analysis, Storch and Wigglesworth (2010) and Wigglesworth and Storch (2012) focused on the extent to which graduate students' engagement with feedback, operationalized as the length and quality of interactive discussions and coded as extensive (multiple turns), limited (single turn) or inexistent, was related to improved accuracy and complexity in subsequent writing. Although failing to find a clear connection between extent of

engagement and uptake of feedback, both studies provide insights into how individual differences in personality (more or less extrovert), learners' goals (motivation to write a more accurate text) and attitudes towards the type and content of the feedback they received (acceptance or resistance), undoubtedly influenced its retention and uptake.

Han and Hyland (2015) have recently suggested that a thorough understanding of the complexity of learners' responses to feedback can only be uncovered by the combined analysis of learners' cognitive, behavioural and affective engagement with the feedback they receive. To this end, they present a multidimensional framework of engagement, adapted from Ellis's (2010) componential framework for corrective feedback, which integrates all three aspects. The affective component brings in the individual dimension of processing by including learners' beliefs and emotional responses to feedback and their on-going attitudes towards the feedback provided. The authors identified the attitudinal profiles of four non-English major students in a Chinese university and showed how their individual learning goals (e.g. conversational use of the L2, instrumental need to pass a test, etc.), self-efficacy beliefs (overconfident, overwhelmed), as well as beliefs on the effectiveness of WCF and preferences for accuracy over conceptual content in their writing (and vice versa), impacted on their willingness to engage with the feedback provided by their teacher. Their results suggest that the interrelatedness of learner factors and engagement with feedback should be accounted for in future research in order to fully integrate the cognitive and social aspects of WCF.

Research into children's attitudes to written corrective feedback is much less abundant. To the best of our knowledge, only two studies have examined children's responses to writing and written corrective feedback by looking at the journal writing of young learners of French in the US (Fazio, 2001), and by analysing students' attitudes towards writing in a primary school context in Hong Kong (Lo & Hyland, 2007). Fazio (2001) analysed the effect of different feedback conditions (corrections, commentaries and a combination of both) on the journal writing accuracy of 46 fifth grade learners. The failure to identify accuracy gains in any of the three feedback conditions was partially explained by the learners' unresponsive attitudes towards the provision of feedback by a teacher other than their familiar classroom teachers, as well as by the fact that they were often found to be inattentive to the corrections they received. Fazio (2001) connected this to the rich, personal and emotional content of the children's journal entries in comparison

to regular classroom writing, which overshadowed somehow the need to pay close attention to corrections. Importantly, the study highlights the fact that noticing and the strategic allocation of attention, which are imperative if corrective feedback is to be successful, is often dependent on contextual and attitudinal factors.

Lo and Hyland (2007) explored the attitudes of nine 10-year-old children on an innovative writing programme designed to prompt their willingness to write in English on topics that were meaningful for them. The results of semi structured interviews and entries in the children's log books revealed a high degree of enthusiasm and engagement by the children. Writing for real audiences on interesting topics stimulated the students' increased personal involvement and became evident in improved content and an increase in the length of their writing assignments, although a trade-off for accuracy was found, especially with higher proficiency children who had been used to less communicatively demanding writing tasks. The authors suggest that the high levels of engagement shown by the children compensate for a short-term decline in accuracy, which can be eventually over time. Although not focused specifically on the effects of WCF, the study adds further support to central role of affective factors in young learner classrooms.

II.1.1. 5. 2. Learner-external factors

As seen in the previous section, the internal processing constraints, low L2 proficiency level, developmental readiness and affective engagement of young EFL learners are all factors that could potentially inhibit the benefits to be gained from receiving written corrective feedback on their written output. How then might these constraints be confronted? How can children be assisted in using WCF to their advantage in order to further their L2 development? Insights might be found by looking at how external intervening factors including collaboration with other learners, instructional intervention and choice of feedback type might impact on potential learning gains in feedback processing tasks.

II.1.1. 5. 2. 1. Collaborative interaction in second language learning

In line with sociocultural perspectives on the role of collaborative dialogue in second language acquisition, and particularly with Swain (2006, 2010), joint reflection on

language during writing and feedback tasks is thought to create important opportunities for learners to potentially enhance their knowledge of the second language. When pairs share their L2 knowledge in the creation of a single text and then jointly figure out the significance of the information provided in the form of written corrective feedback, they are held to be engaging in important cognitive activity. From a sociocultural perspective, the very process of joint discussion and pooling of ideas during writing and feedback analysis, or what Donato (1994) has referred to as ‘collective scaffolding’, promotes the creation of new knowledge through collaborative reflection on language. Swain (2006) has referred to this as ‘languaging’ or ‘the process of making meaning and shaping knowledge and experience through language’ (p98). This premise had led to a growing number of studies into peer collaboration that have examined the effects of different variables including tasks, L2 proficiency and social dynamics on collaborative ‘languaging’ (Swain, 2006), as well as the outcomes of collaborative dialogue on L2 learning and on learners’ written texts (Bitchener and Storch, 2016).

Results from work carried out on factors affecting peer collaboration have shown that: (i) grammar tasks elicit more metalinguistic reflection on language than meaning-based tasks (de la Colina & García Mayo, 2007), although the latter have also been found to foster metalinguistic reflection when preceded by a mini grammar lesson (Swain & Lapkin, 2002), and (ii) language learning opportunities from collaboration on tasks appears to be influenced not only by learners’ proficiency levels, with higher proficiency learners benefitting more from metalinguistic discussions during problem-solving tasks (Leeser, 2004), but also by the type of social relationship they form within their dyads on the basis of individual attitudes and task-related goals (Storch, 2002, 2005, 2007; Storch & Aldosari, 2013). In this sense, Storch (2002) has suggested that collective scaffolding is more likely to occur in collaborative pairs where equality and mutuality are high and both participants contribute equally to the task. Expert/novice pairs, in which one member of the pair provides support and encouragement to the less competent member, are also considered to embody greater potential for language learning than either dominant/dominant or dominant/passive combinations, regardless of proficiency levels. These findings have both pedagogical and empirical implications for the pairing of learners in collaborative activities.

The impact of learner collaboration on the outcome of second language learning has not been as well defined, with studies producing conflicting results. In researching proficiency differences and patterns of pair interaction in Japanese ESL learners, Watanabe and Swain (2007) found that pairs with a collaborative orientation (collaborative and expert/novice) achieved higher scores on a revised piece of writing during a multi-stage task involving reformulation than non-collaborative pairs (dominant/passive and expert/passive), regardless of proficiency levels. They suggest that patterns of (collaborative) interaction rather than proficiency pairings are more likely to affect L2 learning. Kuiken and Vedder (2002) focused on the collaborative dialogues of students of Dutch, English and Italian as a second language during a dictogloss tasks with a view to identifying the lexical and grammatical complexity of their jointly reconstructed written texts, as well as the linguistic, metalinguistic and interactional strategies they used during the task. Learners' metalinguistic awareness and discussion of language forms (lexis and grammar) during the writing process were found to impact positively on the quality of their written texts and led to the generation of new knowledge.

However, Shehadeh (2011) reported that collaborative writing only affected specific aspects of the written texts of thirty-eight low proficiency university students, including content, organization and vocabulary. Unlike Kuiken and Vedder (2002), improvements in mechanics and grammar were not observed. This was attributed to learners' generally low levels of English, which may have prevented them from assisting each other in these specific areas. However, learners working collaboratively wrote better texts than peers who wrote individually and found the activity useful and enjoyable. Further support for peer collaboration also comes from studies that have focused on learners' written products. Several studies have indicated that collaboratively written texts were often more grammatically accurate than those produced by individual writers (Dobao, 2012; Storch, 2005; Storch & Wigglesworth, 2007).

Studies of collaborative pairwork have been conducted either with university students, mostly in ESL (Storch, 2002, 2005, 2007; Storch & Wigglesworth, 2007; 2010; Watanabe & Swain, 2007; Wigglesworth & Storch, 2012), and to a lesser extent in EFL contexts (de la Colina & García Mayo, 2007; Dobao, 2012; Kuiken & Vedder, 2002; Shehadeh, 2011; Storch & Aldosari, 2013), or with French immersion students (Swain & Lapkin, 2002). Fewer studies are available with younger school-aged children. However, learners'

collaboration on writing tasks in L1 contexts has been found to lead to improvements in children's writing (Daiute & Dalton, 1993; Yarrow & Topping, 2001). With a few exceptions (Cánovas et al., 2015; Coyle & Roca de Larios, 2014), the potential impact of working with age and proficiency-matched peers on collaborative writing and feedback tasks in EFL contexts has still to be fully explored.

In ESL and EFL contexts, however, there is a much longer tradition of research into children's collaborative interaction in oral communication tasks. Children's interactive task performance has been explored in a variety of studies (Ellis & Heimbach, 1997; Lázaro-Ibarrola & Azpilicueta Martínez, 2015; Oliver, 2000, 2002; Mackey & Oliver, 2002; Philp, & Mackey, 2008; Pinter, 2006, 2007; Van den Branden, 1997). Among others, researchers have investigated i) whether interaction is facilitative of vocabulary acquisition (Ellis & Heimbach, 1997); ii) the interactional patterns and negotiation strategies used by children and adults (Oliver, 2000; Pinter, 2006); iii) the potential benefits of task repetition (Pinter, 2007); iv) the relationship between interactional feedback and task-based interactions (Oliver, Philp & Mackey, 2008) or the conversational strategies of young low proficiency EFL learners (Lázaro-Ibarrola & Azpilicueta Martínez, 2015). Collectively considered, this research data suggests that children as young as six years of age can and do interact with other young learners and with adults on oral communication tasks and use a variety of strategies to do so.

From the above-mentioned studies, we know that collaborative dialogue during oral and written tasks is affected by learners' proficiency levels and pair dynamics, both of which, in turn, influence the quality of oral and written output and the processing of information obtained from negotiated interaction. In focusing on WCF in particular, very little is known regarding the ability of young learners to successfully work together to identify gaps in their L2 knowledge while writing, to attend to corrective feedback and then use this knowledge to upgrade their written L2 production. This lack of information suggests the usefulness of investigating collaborative writing and feedback analysis as a site for learning in the L2 classroom.

II.1.1. 5. 2. 2. The mediating role of Instruction

A further factor that may impact on learners' responses to WCF is the availability of instruction on how to make the most of the feedback provided. In some L2 and FL classrooms where a focus on form and writing activities are often the norm, learners may be well accustomed to receiving and analysing feedback. This is generally true for older learners who are often more motivated to attend to information provided on their linguistic errors. However, in young learner classrooms writing tasks and the provision of corrective feedback are often overlooked in favour of oral communication tasks. This means that children are not only unfamiliar with writing regularly in the L2, but also that they have very little experience of handling feedback on their texts. It follows then that instruction aimed specifically at helping learners to identify and understand the nature of errors in their written output could potentially enhance the quality of their noticing and processing of WCF.

Several studies have suggested that learners should be trained in how to notice gaps between their own writing and the teachers' corrective feedback in order to help them to make better use of the feedback (Allwright, Woodley & Allwright, 1988; Cánovas et al., 2015; Qi & Lapkin, 2001; Yang & Zhang, 2010). Allwright et al (1988) suggested that class discussions in which learners collectively analyze their written texts and feedback provided in the form of a native speaker reformulation in order to 'consider the probable reasons for and effects of the changes the native speaker has introduced' (p238) may be more useful even than the feedback itself in influencing learners to modify their writing appropriately and learn from that experience. Yang and Zhang (2010) called for intervention by the teacher during feedback comparison tasks to help focus learners' attention on specific linguistic issues, while Cánovas et al. (2015) suggested that younger learners in particular need 'extended practice at the feedback comparison stage in activities designed to promote noticing and rehearsal so as to facilitate children's encoding of linguistic forms in long-term memory for future retrieval and use' (p73). However, as far as we are aware, studies which focus on feedback instruction and its impact on learners' noticing processes, writing development and L2 learning over prolonged periods of time are currently unavailable. On the contrary, how the type of feedback given to learners is liable to influence how much or how little they learn from it has been the subject of a great deal of ongoing debate.

II.1.1. 5. 2. 3. Types of Feedback

Written corrective feedback can be delivered in a variety of different ways that vary as regards their degree of explicitness including (a) direct (explicit indication of an error), (b) indirect (signalling that an error has been made) or (c) metalinguistic (providing an explanation or a rule) feedback types, and their focus, ranging from the comprehensive correction of all errors to the selective targeting of specific linguistic features. Several arguments have been put forward in support of these different types of feedback and numerous studies have investigated their claims. Proponents of indirect feedback types such as underlining or circling errors argue that they encourage learners to engage in deeper processing and problem-solving by fostering reflection on the relationship between the feedback and existing L2 knowledge (Ferris, 1995; Lalande, 1982). On the other hand, those in favour of direct feedback such as error correction (EC) (Chandler, 2003) claim that it may be more useful for learners since it offers immediate access to correct language forms thus reducing confusion and helping learners especially with more complex syntactical errors. Providing learners with metalinguistic explanations including rules and examples of correct usage might also be expected to promote learning since the information provided is even more explicit than direct error correction. However, as discussed above, the relative usefulness of different types of feedback will be largely dependent on learner internal factors including their proficiency and processing capacity, as well as the nature of the information provided in the feedback and the complexity of the linguistic focus (Bitchener, 2012).

With the relationship between WCF and second language development still an open question, there has been increasing interest in recent years in exploring alternative feedback techniques including reformulations (Adams, 2003; Qi & Lapkin, 2001; Yang & Zhang, 2010) or model texts (Hanaoka, 2006a, 2006b, 2007; Hanaoka & Izumi, 2012). Both of these more discursive types of feedback consist of providing learners with whole texts rather than itemized lists of explicitly corrected errors, editing symbols or metalinguistic codes. Reformulation, as defined by Levenson (1978, in Qi & Lapkin, 2001), is “a native speaker's rewriting of an L2 learner's composition such that the content the learner provides in the original draft is maintained, but its awkwardness, rhetorical inadequacy, ambiguity, logical confusion, style, and so on as well as lexical inadequacy and grammatical errors are tidied up” (p281). By keeping the content of the original text

intact, the rewritten text provides learners with a native writer's version that they can compare with their own draft (Qi & Lapkin, 2001). Nevertheless, as Allwright, Woodley, and Allwright (1988) noted, “a good reformulation may not be a good sample of native writing since it is limited by its faithfulness to the original writer's intentions” (p. 254). As a result, reformulations may not provide the learner with language or ideas beyond those expressed in the original draft. Model texts have therefore been used to counteract this shortcoming.

II.2. The use of model texts as a feedback technique

Models involve the use of native or native-like texts that learners compare with their original writing. Unlike reformulation, models are written bearing in mind the content and the genre of the text, as well as learners' age, proficiency level, etc., but without referring to the actual texts produced by the students. The use of models is a relatively under-explored technique for providing feedback on learner's L2 errors. Traditionally, models were given to learners prior to engaging in writing in an effort to help them improve their writing skills. However, when shown a model text before writing, students often resorted to copying it, which meant that they were less likely to engage in reflective discussion of the language and content the model provided. Hence, they may not have activated crucial processes of attention and noticing. Currently, models are held to play a more important role than originally thought. Not only can they provide rich sets of appropriate L2 words and structures for a given context, but they might also include alternative ideas and content and stimulate cognitive conflict by presenting information that contradicts learners' beliefs on how language works (Tocalli-Beller & Swain, 2005). Since errors are not explicitly singled out, learners are pushed to actively identify their own errors, a process that may lead to deeper processing (Adams, 2003; Sachs & Polio, 2007). Models may also help learners to notice both similarities and differences between their interlanguage and the second language, a process that would allow them not only to re-evaluate their knowledge but also to confirm it (Sachs & Polio, 2007). By giving learners a model text after the writing task has been completed rather than before it, learners may be more alert to detecting those features of the model text that they themselves found problematic in their initial drafts, including those which they avoided due to their limited linguistic resources (Hanaoka, 2006a), thus encouraging selective attention to specific aspects of the L2. When the focus of learners' noticing from the

model is understood in the sense outlined by Gass (1997), that is, syntactically as well as semantically, it might then be used, potentially, as feedback for acquisition by their developing system (Manchón, 2011a). Furthermore, from a practical perspective, offering a model text to the whole class is more manageable for the teacher, and no less beneficial, than the time-consuming task of reformulating the written texts of every student in a class (Ferris, 2010). All things considered then, models would appear to be an advantageous form of written feedback for second language learners.

II. 2. 1. Empirical research into the use of models

There has been little empirical research to date on the use of models as a feedback technique. So far, models have been explored with Japanese EFL university students (Hanaoka, 2006a, 2007; Abe, 2008) and Spanish EFL high school learners (Martínez & Roca de Larios, 2010) and primary school children (Cánovas et al, 2015). Models have also been compared to reformulations with adult EFL learners in Japan (Hanaoka, 2006b), and with EFL students at a Japanese (Hanaoka & Izumi, 2012) and a Chinese university (Yang & Zhang, 2010), in both individual and collaborative writing. Models have also been compared to error correction with young EFL learners in Spain (Coyle & Roca de Larios, 2014).

The findings of these studies have highlighted several advantages for models. They are unanimously considered to be useful for encouraging lexical noticing. This is especially true for higher proficiency learners (Abe, 2008; Cánovas et al, 2015; Hanaoka, 2006b). Models also appear to be advantageous for promoting the noticing of alternative expressions and ideas that help learners, especially those working collaboratively, to improve their written texts (Coyle & Roca de Larios, 2014; Martínez & Roca de Larios, 2010). Studies that have compared models and reformulations (Hanaoka, 2006b; Hanaoka & Izumi, 2012; Yang & Zhang, 2010) or models and error correction (Coyle & Roca de Larios, 2014) have emphasized the differing but complementary roles played by both types of feedback. Yang and Zhang (2010) report that when confronted with a reformulated version of their own writing, learners appeared to identify their original errors more easily. Models, however, were helpful in providing learners with new lexis and content above and beyond their own writing. Similarly, Hanaoka and Izumi (2012) suggest that while reformulations mostly provided solutions for the overt problems in

learners' written output, model texts enabled learners to locate solutions for both overt and covert problems. The latter referred to problems that they had experienced while formulating their initial text but had then avoided incorporating into the original draft. The authors conclude that although reformulations can be instrumental in helping learners identify linguistic inadequacies, they do not provide optional content that allows learners to expand their linguistic repertoires. Models, in contrast, play a dual role of addressing both form and meaning by providing learners with a range of diverse expressions and new ideas (Hanaoka, 2006a). A similar trend was reported by Coyle and Roca de Larios (2014), who emphasise the value of both EC and models in promoting noticing among children and in helping them diversify their linguistic concerns.

The two studies that have focused on the use of models by young EFL learners are worth special consideration. In their study with young language learners at low proficiency levels, Cánovas et al. (2015) found the use of model texts to be helpful for attracting the children's attention to lexis and chunks of language as well as fostering overall improvements in the quality of their writing. These improvements were apparent in the children's elimination of superfluous content and the production of more precise descriptions of a picture story text, as well as more coherently structured texts. In contrast, the formal features of the model were not the main focus of attention for the children as a comparatively lower proportion of grammatical changes were incorporated into the learners' revised texts. In light of the difficulties experienced by the children in processing and integrating linguistic forms into their written output in syntactically acceptable ways, the authors suggested that with younger lower proficiency learners both the scope and quality of their noticing appeared to be central to the successful use of model texts (Hanaoka, 2007). The processing constraints these children experienced during feedback analysis as a result of their minimal L2 knowledge led the authors to emphasize the need to provide younger learners with additional guidance and practice in using models so that they might better exploit the potential of this particular feedback technique. In their opinion, children need to be made aware of how to extract ideas, lexis and form systematically, just as they need to be shown how to allocate their limited attention more strategically. As a result, they suggested that teaching learners how to handle models might improve the quality of their noticing. This is a challenge that research has yet to explore.

Coyle and Roca de Larios (2014) explored the role played by two forms of feedback, error correction and model texts, on Spanish children's reported noticing and written output. The results of a detailed analysis of the children's noticing processes indicated that the children in both conditions focused on and later incorporated mainly lexical features into their output. However, gains in the linguistic acceptability and comprehensibility of the children's revised texts showed an advantage for error correction over models, with the learners in the EC condition reporting more noticing of grammar than their counterparts in the model condition. The authors suggest that because the teacher's error correction was tailored specifically to specific errors in the learners' original texts and was also perceptually more salient, these children were not required to deploy search and interpretative procedures to locate differences between the feedback and their output, and so might have been better able to devote their cognitive resources to the perception and reporting of the changes observed (Sachs & Polio, 2007; Santos, López Serrano & Manchón, 2010). Nevertheless, it is also true that the use of models promoted children's noticing of chunks of language, which the higher proficiency children were better able to incorporate into their writing. The low proficiency children, on the other hand, tended to simplify the chunks idiosyncratically by recombining their elements to produce unique clauses formed by misinterpreting elements that had been noticed but only partially understood.

These findings regarding the noticing and use of analysed portions of language merit further attention as they have theoretical implications. The young learners in both studies attended to and noticed language from the model. However, the failure of some children to fully understand the nature of those noticed gaps, as apparent in the faulty combinations of linguistic data that emerged in their revised texts, meant that any impact of the model on their developing L2 system was unlikely. For other children who incorporated parts of the model acceptably, their use of unanalysed language chunks can be interpreted from the perspective of emergentist-usage-based theories of second language learning. From this theoretical lens, it is posited that unanalysed formulas are: 'not only a springboard to communication and grammatical analysis at beginning stages, but the stuff of acquisition' (Ortega, 2009b, p 114). In emergentist theory, language is held to be a dynamic system in which development emerges as a series of evolving patterns that are driven by experience and the induction of generalizations from the multiple contexts in which the patterns appear (Ellis & Larsen-Freeman, 2006). In this way, formulas and chunks of

language learners may notice from the feedback are registered as a specific form-function mapping in this particular language use event (the model text). Subsequently, each time learners have a new linguistic encounter they will implicitly encode and relate the information to the frequencies, distribution and contexts of all previously experienced language events as part of their cognitive processing of the input. When items are encountered repeatedly and the cues as to how they work are sufficiently salient, learners can begin to inductively abstract information from the formulas by converting them firstly into low-scope patterns (e.g. I can't + slot) and eventually into constructions (Robinson & Ellis, 2008). What is important here is the frequency and salience of the language exemplars that children process in the input. Hence there is a need to ensure that these conditions are met by the feedback learners are exposed to. Evidence of the gradual unpacking of memorized formulas in oral child L2 acquisition (Myles, Hooper & Mitchell, 1999; Wong Fillmore, 1979) suggests the potential usefulness of models as a starting point for development in this respect. The caveat is that the language in the models should not be overly complex so as to mask the form-meaning relationships that could trigger experience-based induction.

The studies on learners' processing of models outlined above have provided empirical support for the use of models as a feedback technique with learners of different ages and abilities. The findings suggest that learners can and do notice gaps between their written output and the feedback, and that this noticing appears to have a facilitating effect on the uptake and more accurate use of the L2, at least in the short-term. As such, this research contributes to our growing understanding of the language learning potential of model texts as an innovative form of written corrective feedback. What remains to be seen is if this potential can promote benefits over a longer period of time and with linguistic features other than lexis. Against this background, the effects of training learners to use models is certainly worth empirical consideration.

II. 2. 1. 1. The research focus of studies investigating learners' processing of models

The studies carried out to date with models have followed a similar research design involving a multi-stage task that comprises (i) an initial picture story writing task, (ii) the comparison of the learners' written output with the model and (iii) an immediate rewriting task. Some studies have also included a delayed revision task to be completed after a two

month time period (Hanaoka (2006a; 2007)). In anchoring the analysis of learners' cognitive processing within a sequential framework, the aim of this body of research has been to establish some sort of progressive relationship between the different stages of the writing task. This has entailed identifying: (i) the linguistic problems experienced by learners while writing and their outcome; (ii) the solutions offered by the feedback to those problems, (iii) the learners' noticing (or not) of those solutions, and (iv) their successful incorporation (or not) in the learners' revised texts. In practice, however, each of the individual research studies to date has approached some or all of these four steps differently and directed their scope of inquiry towards specific dimensions of learners' writing and feedback processing. This has led to a narrowing down of the phenomenon under investigation and produced a fragmented rather than a comprehensive account of the possible options available to learners at each stage of the task. In what follows, the limitations of existing research will be discussed (see Table 1).

Within the writing-to-learn strand of research, as previously noted, the production of written output is conceived as a problem-solving activity in which learners struggle to express themselves in a language they are in the process of acquiring (Manchón, 2011b). In doing so, they may become more aware of holes and gaps in their L2 knowledge and therefore better prepared to notice and use potential solutions in subsequent feedback. Underlying this rationale is the notion of problematicity and it is this very idea that researchers have attempted to capture in their exploration of learners' data while writing, analysing feedback and revising their original texts. The analytical categories used in these process-oriented studies to capture learners' attentional processes have attempted to incorporate this notion. These include: (a) Problematic Features Noticed while writing (PFN) and Features Noticed (FN) during feedback analysis, coded according to their linguistic focus (Hanaoka, 2006a, 2006b, 2007; Hanaoka & Izumi, 2012; Martínez Esteban & Roca de Larios, 2010), and (b) Language Related Episodes, defined by Swain and Lapkin (2002) as 'any part of the dialogue, where learners talk about the language they produced and reflect on their language use' (p. 292) (Cánovas et al, 2015; Yang & Zhang, 2010). In the study by Coyle & Roca de Larios, (2014) both categories were used.

Table 1

Data Analysis categories and Limitations in Research on Models

Study	Feedback Type and Data Collection Method	Participants	Data analysed at Stage 1	Data analysed at Stage 2	Data analysed at Stage 3 /4
Hanaoka (2006a)	Models (Note-taking)	Individual: 37 Japanese EFL university students	PFN: Lexis, grammar, content or other. Solved or unsolved and avoided completely (covert problems) or partially by using L1 or a blank space (overt problems)	Solutions in the model to the <i>unsolved</i> problems were coded as recoverable or not and noticed or not.	Focuses on the incorporation or not of solutions to the unsolved (avoided) problems only.

Shortcomings:

- Narrow focus only on learners' unsolved (avoided) problems at all stages of the writing task
- PFN solved at stage 1 through achievement strategies are not contemplated in the data analysis
- Incorporations coded as 'all or nothing' categories

Hanaoka (2006b)	Models and Reformulations (Think aloud)	Individual writers: one high and one low proficiency Japanese EFL student	PFN (lexis, grammar, content).	FN Learners' noticing coded in terms of linguistic focus (lexis, grammar, content)	Incorporation of linguistic features which were traceable to each of the feedback types or both
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Shortcomings:

- Focus only on the *linguistic* representations underlying learners' problems
- Focus is on the *number* of features noticed and incorporated.

- Failure to identify the *origin* of the features noticed and incorporated in the revised texts as either problems from stage 1 or features noticed only at stage 2.
- Study connects stages 2 and 3 but fails to establish connections with problem types at stage 1.
- Incorporations coded as ‘all or nothing’ categories. Additional stage 3 categories (eg alternatives or new ideational content) are not coded although acknowledged.

Hanaoka (2007)	Models (Note-taking)	Individual: 37 Japanese EFL university students at higher and lower levels of proficiency	PFN: Lexis, grammar, content and other. Solved, unsolved and implicit acknowledgment of unreported problems: ‘ <i>words which had not been consciously searched for during the original writing stage</i> ’ p 467.	FN coded in linguistic terms. Problems were coded as solvable or unsolvable. Noticing of solutions to solvable PFN was computed	Computation of stage 1 PFN that were noticed at Stage 2 and incorporated at stage 3 Breakdown of data into incorporations of FN that were related and unrelated to Stage 1 PFN
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Shortcomings:

- Unreported problems at stage 1 are acknowledged implicitly but not coded as a category.
- Solved problems at stage 1 that were identical to the model were excluded from the stage 2 analysis. This means missing opportunities to identify instances of cognitive comparison in the noticing data.
- Coding of Stage 2 noticing is too broad to capture subtleties in learners’ noticing (e.g. partial noticing).
- Noticing at stage 2 is restricted exclusively to problems that are *solvable* from the model. Unsolvable problems are excluded from the stage 2 analysis. This means missing opportunities to identify partial solutions or alternatives offered by the model.
- Failure to account for unreported noticing from the model that led to incorporations. When this occurred it was taken as evidence of incomplete note-taking
- Stage 3 analysis is too broad and not sufficiently refined.
- Analysis is restricted to lexis only. Focus is on *quantifying* the relationship between noticing and incorporations. No impact on L2 development is contemplated.
- Failure to fully account for the incorporation of partial solutions to problems despite the provision of examples which corroborate this.

Yang and Zhang (2010)	Models and Reformulations	Collaborative: 5 pairs of Chinese	LRE Lexis, Form and discourse and CREs Picture story content.	Lexical and form LRE were coded as noticed or unnoticed and matched against the total	Changes in the revised texts coded for matching the two types of
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Pair talk and marking their original texts.	EFL university students	Problems were coded the problems as solved (correctly or incorrectly) or unsolved (avoided).	number of reformulations made. No information is given on how the noticing from the model text was analysed.	feedback (incorporations) and whether they were acceptable.
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Shortcomings:

- Collaborative dialogue was recorded at stages 2 and 3 only, thus failing to capture problem-solving processes during initial composing
- Stages 1 and 2 are connected by identifying the *number* of differences the learners noticed between their original texts and the reformulations. Noticing from the model is descriptive.
- Stages 2 and 3 are connected by coding all the changes in the revised texts that *matched* or were *similar* to the feedback. So the stages are examined quantitatively two at a time (S1+ S2 then S2+S3) rather than across the entire sequence
- Noticing categories focused only on whether a solution to a problem was noticed or not, the noticing of alternative or new content is not included in the analysis
- Categories at stage 3 are not well defined. It is not clear what is meant by incorporations that are ‘similar’ to the feedback. It seems that partial incorporations are accounted for but not, repetitions, deletions, etc. although its is acknowledged that students repeated errors in their revised texts

Martínez	Models	17 high school EFL students aged 15 years working either individually (5) or in pairs (6)	LRE Lexis, spelling, grammar, ideas and other and classified as solvable or unsolvable.	Linguistic FN in the model noticed by individuals and pairs	Incorporation of solutions to FN
Esteban and Roca de Larios (2010)	Note-taking				

- Focus only on the *linguistic* representations underlying learners’ problems
- Failure to include solved and unreported problems at stage 1
- Failure to include a category at stage 3 to account for the incorporation of new previously unreported features that were noticed in the model.

Hanaoka and Izumi (2012)	Models and Reformulations Written notes	Individual. 38 Japanese EFL university students	Identify two types of problems. Overt and covert PFN problems which they broke down into three	Solvable or unsolvable. Noticing of solutions to problems	Incorporation of solutions to overt features
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		of intermediate proficiency	types (avoidance; L1 or blank space; use of paraphrase)		
					<ul style="list-style-type: none"> • Problem types at stage 1 are insufficiently clear. Possible overlapping between overt problems and the use of paraphrase which is coded as covert despite being visible in the learner's texts. • Failure to include solved problems in the data at stage 2 means not accounting for the noticing of alternatives in the feedback to what is already correct • Failure to account for unreported noticing at stage 2 although this phenomenon is acknowledged as a methodological limitation of note-taking • Failure to account for the incorporation (or not) of unreported features • Incorporations coded as 'all or nothing' categories
Coyle and Roca de Larios (2014)	Models and EC Note-taking	23 pairs aged 11 - 12	LRE (PFN) lexis, spelling, grammar, ideas	Linguistic FN noticed by pairs	Incorporations of lexis, grammar, spelling, ideas including previously unreported features noticed
					<ul style="list-style-type: none"> • Focus only on the <i>linguistic</i> representations underlying learners' problems • Failure to account for unsolved and unreported problems at stage 1 • Focus is on the <i>number</i> of features noticed and incorporated. • Incorporations coded as 'all or nothing' categories
Cánovas Guirao, Roca de Larios and Coyle, 2015	Models Pair talk and written notes	20 Grade 5 children 10-11 years old	LRE Lexis, form, sentence, discourse and CRE Coded for whether they were solved (correctly or not) or avoided	Coded type of FN in the model	Type of incorporation and whether it was acceptable (accurate) or unacceptable (incorrect). They also tried to account for extra categories: *Solved but not via the model * Partial incorporations from model
					<ul style="list-style-type: none"> • Failure to account for unreported problems at stage 1 • Failure to account for different types of noticing (new features in the model, unreported or partial noticing)

II. 2. 1. 1. 1. Data analysis at the initial writing stage

In exploring learners' writing and feedback processing, some researchers have looked mainly at the *linguistic* representations underlying the LREs and problems noticed by learners while writing and analysing feedback (lexis, grammar, spelling, etc.) rather than the outcome of the problem (solved, unsolved, etc.) or the procedures they used to solve those problems (lexical searches, etc.) (Coyle & Roca de Larios, 2014; Hanaoka, 2006b; Martínez Esteban & Roca de Larios, 2010). In these studies the focus has been on quantifying the number and type of linguistic or content-based problems noticed and incorporated by learners in relation to different feedback types or in individual versus collaborative writing. While useful for assessing the relative merits of reformulations (Hanaoka, 2006b) and error correction (Coyle & Roca de Larios, 2014) as compared with model texts, or for highlighting the benefits of peer collaboration during writing tasks (Martínez Esteban & Roca de Larios, 2010), these studies tell us nothing about how learners' problems were strategically handled. This necessarily limits the interpretation they can offer of how output production might impact on the mental processes involved in writing and feedback analysis. In order to explore further the language learning potential of WCF, it is important to identify the ways in which learners move from identifying a problem to finding a solution while writing in the L2 (Swain & Lapkin, 1995). By externalizing their thought processes either through collaborative dialogue or think aloud methods learners' might reveal faulty or incomplete representations of knowledge, which might then be targeted by relevant feedback to advance their L2 development.

However, studies on models have looked at learners' problem solving behaviours from a different angle and concentrated instead on the linguistic focus of the problems noticed and their outcome. This has led to the inclusion of the categories of *solved* and *unsolved* problems in the analysis of stage 1 data (Hanaoka, 2006a; 2007; Hanaoka & Izumi, 2012). Both Cánovas et al (2015) and Yang and Zhang (2010) took this one step further and coded the solved problems for whether the resolution was accurate or not. However, limiting the data to only two possible outcomes has proven to be overly restrictive as it fails to contemplate other possibilities available to learners while attempting to write their initial texts. These might include, for example (i) problems in learners' written texts which they may not be aware of and which do not show up in their written notes or

collaborative dialogues, and (ii) problems which, on the contrary, are noticed by learners but avoided or partially avoided and so do not always appear in their written texts. In relation to the first type (unreported problems), Hanaoka (2007), using written notes as a data collection tool, acknowledged the existence of problems in the initial written output of some learners that had not been specified in their notes and which they had not actively attempted to solve. On analysing the model at stage 2, however, some of these learners noticed ‘words which had not been consciously searched for during the original writing stage’ (p467), a process, which Hanaoka terms ‘delayed noticing’. These were words that had not been identified as problematic at stage 1, but which were later accredited as having constituted problems when learners compared their texts with the feedback. This led Hanaoka to highlight the potential of written output to facilitate not only the noticing of holes but also the noticing of previously unreported gaps in learners’ L2 knowledge.

The second type of problems fall within the unsolved category. Most of the research reviewed on models has coded unsolved problems on the basis of visible evidence in learners’ written products. Interestingly, Hanaoka (2006a) and Hanaoka and Izumi (2012) delve further into the category of unsolved problems to differentiate between overt and *covert* problems, thus adding a new dimension to the types of problems that emerge during the initial writing stage. While overt problems are identified in all the studies as ‘forms that participants tried out for PFNs in their writing’, covert problems refer to ‘PFNs, which participants did not address or addressed only indirectly in their output’ (Hanaoka & Izumi, 2012 p 338). Covert problems are then classified as either (i) totally avoided, (ii) partially avoided as reflected in the learner’s use of the L1 or a blank space in their text, or (iii) substituted using paraphrasing. Their coding of these unsolved problems has proved useful in providing evidence of learners’ formation of internal hypotheses that may or may not always show up explicitly in their writing. Similarly, the connection established between the problems and the extent to which they were recoverable or not from the feedback has shown that, unlike reformulations which are related more directly to the overt errors in learner’s texts, models can and do provide solutions for these concealed or partially concealed holes and gaps in learners’ L2 knowledge.

On the downside, however, the narrow emphasis of both studies on unsolved problems led to the exclusion of solved problems from their data analysis. Similarly, Hanaoka

(2007) and Martinez and Roca de Larios (2010) also excluded from their analysis some of the problems learners solved at stage 1 on the grounds that the models had included exactly the same features. By doing so, they missed two important opportunities to subsequently (i) ascertain whether the learners went on to actively notice the identical solutions in the model to their solved problems, thus enabling them to confirm their initial hypothesis, and (ii) check whether these initially solved problems were maintained or not in the final texts, thus obtaining evidence of knowledge consolidation. On the basis of these shortcomings, it would seem theoretically useful to develop a broader and more inclusive coding scheme at stage 1 that fully accounts not only for the solved/unsolved dichotomy used by most researchers but also for *unreported problems* and the *absence of problematic features* which could be connected to future noticing and rewritten output.

II. 2. 1. 1. 2. Data analysis at the feedback comparison stage

In line with the codification of stage 1 data, research into models that has examined what learners reported noticing while comparing their original writing to a model text has loosely coded noticing as either language and/or content-related Episodes (Yang & Zhang, 2010), or as the features noticed in the input (Cánovas et al, 2015; Coyle & Roca de Larios, 2014; Hanaoka, 2006a, 2006b 2007, Hanaoka & Izumi, 2012; Martinez and Roca de Larios, 2010). Most of the studies reviewed in this section have used either written notes or collaborative dialogues to measure learners' attentional processes. Only Hanaoka (2006b) used think alouds as a methodological tool with two adult writers. The focus in all of the above mentioned studies has been on *what* aspects of language were noticed by learners but not on *how* they engaged with the feedback. This is largely because of the difficulty involved in linking internal processes with learners' observable behaviours. As a result, crucial issues like awareness, understanding and depth of processing have been ignored. Unlike reformulation studies in which concepts like substantive and perfunctory noticing (Qi & Lapkin, 2001) or learners' reported levels of awareness (Sachs & Polio, 2007) have been explored, research on models has tended to *quantify* the focus of learners' attention as another dichotomy (noticed or not) and establish connections between the lexical, grammatical and content-related features noticed in relation to different feedback types. This has not always been done uniformly. Yang and Zhang (2010), for example, computed the amount of features learners' noticed from a reformulation but provided a descriptive analysis of noticing from a model text.

Analysing noticing data as an ‘all or nothing’ experience overlooks the complexity of the phenomenon and fails to contemplate other possibilities, some of which have been alerted to in several of the research studies reviewed. These include occasions when learners (i) may only partially notice something, (ii) notice something new or different in the feedback that is unrelated to their original text or (iii) fail to verbalize what they have noticed. All three situations have been mentioned as intervening factors in at least one of the studies on model texts, but these circumstances have not yet prompted researchers to incorporate these events as standard analytical categories at stage 2. Hanaoka (2006a) makes a case for partial noticing when he states ‘participants’ noticing and incorporation of features were in many cases incomplete or contained errors which directly resulted in inadequate revisions’ (p 9). Furthermore, the qualitative examples of learners’ revised written output discussed by Hanaoka (2007) and by Coyle and Roca de Larios (2014) suggest that low proficiency learners in particular may only notice parts of an expression or a structure when processing models. Hanaoka (2007) refers to this as the ‘scope of noticing’ (p 474) or the extent to which a word or a collocation is noticed. The data on children’s writing provided by Coyle and Roca de Larios (2014) also suggests that the children’s partial noticing and retrieval of lexical chunks and grammatical features were indicative of faulty integrative processing (Izumi, 2002), which prevented them from noticing linguistic items as part of an integrated whole rather than as isolated features. These valuable findings point to the importance of reevaluating how learners’ noticing has been coded in order to better capture the subtleties of their internal processing mechanisms.

The noticing of alternative language or new ideational content that differs from learners’ original writing has frequently been recognized as one of the main advantages of model texts as against other types of feedback. Yet researchers have not consistently accounted for the occasions when, in the absence of a problem, learners’ attention is drawn to words and expressions in the model that they simply prefer over their own acceptable version, or to an idea that they had not thought to include. This noticing of alternative content is acknowledged by Martínez Esteban & Roca de Larios (2010) on analysing the stage 2 data of high school students:

‘...some students noted that some of the expressions used in the models differed from their own and could be used to improve their original texts. For instance, a participant

said that he would change the beginning of his story for the one written in model B, as he considered the latter to be clearer and easier to read' (p155).

Other studies have focused less on the noticing of new ideational content or linguistic features as a direct consequence of having restricted their stage 1 analysis to the identification of solved and unsolved problems and their solutions, rather than broadening their coding schemes to include instances of unreported problems and non-problematic output that may give rise to the noticing of alternative forms of expression. This would seem to be the case with Hanaoka (2006b) who admits that the learners in his study incorporated more from the model text but noticed more from the reformulation. This gives some indication that the model offered more than just solutions to problems, but these additional incorporations of new linguistic or ideational content are not specifically accounted for as a category in their own right.

Finally, several of the studies have highlighted the limitations of note taking as a data collection technique. Hanaoka (2007) suggests that '...the fact that participants incorporated more features than they reported noticing suggests that the participant's notes were incomplete' (p475). In an later study Hanaoka and Izumi (2012), on comparing learners' revisions with their reported noticing, claim: 'The number of incorporations is greater than that of being noted due to the participants incorporating some features of the feedback texts without reporting noticing them in stage 2' (p340). Aside from these methodological drawbacks, what this indicates is the importance of accounting for times when there is no observable evidence of noticing but the changes in learners' revised texts appear to indicate that some degree of noticing has taken place. This aspect was taken into consideration by Coyle and Roca de Larios (2014) in their analysis of children's written notes, which often proved to be incomplete. The authors state (p.477):

'It is interesting to note that about a third of the children's lexical revisions were found to correspond to items that had not been explicitly reported at previous stages but that later appeared in their revised texts. This was particularly true in the case of models'.

Investigating categorically when, learners may fail to report their noticing from feedback would seem to be called for in future research.

II. 2. 1. 1. 3. Data analysis at the revised writing stage

Research on models as a feedback technique has examined their impact on learners' uptake of (i) linguistic features that are traceable to a model or to other feedback types

and (ii) solutions to problems previously identified at stages 1 and/or stage 2. However, as with the stage 2 noticing categories, learners' incorporations from feedback have been described in absolute terms. Linguistic features and content from the feedback are either incorporated or they are not. The acceptability of uptake was also used as a criterion for assessing learners' revised texts in several studies (Cánovas et al, 2015; Coyle & Roca de Larios, 2014; Yang & Zhang, 2010). However, once again, the narrow lens with which the stage 3 data has been examined has led to the exclusion of other types of changes that are often found in learners' writing. These include (i) partial incorporations from the feedback, (ii) the repetition or deletion of solved, unsolved or unreported problems, (iii) new incorporations that are unrelated to the feedback and (iv) the incorporation of solutions to problems using sources other than the feedback. Only Cánovas et al, (2015) and Yang and Zhang (2010) accounted for learners' partial incorporations in their respective coding of changes that 'partially matched the model' (p 71) and acceptable changes that '...were *similar* [my italics] to the reformulated text or the model text' (p 476).

In general, the research to date has tended to emphasize the improvements in learners' writing while simultaneously ignoring drawbacks or negative aspects. This tendency has given a one-sided view of their revised written output by failing to consider the text as a whole and counter-balancing both upgrading and downgrading tendencies. For instance, deleting ideational content to write a shorter text or repeating the same faulty problematic output regardless of feedback cannot be expected to make a significant impact on learners' interlanguage, but these undesirable features of learners' texts are rarely considered, if at all. The range of possibilities open to learners upon rewriting their original texts is much more subtle than generally acknowledged. Taking this idea into consideration is important in deepening our understanding of second language development in line with Polio's (2012) contention that 'from an SLA perspective, small or short-term changes can be evidence of learning' (p 377). If this is so, then even minor signs of progress will have to be accounted for and weighed against the shortcomings in learners' writing. This is particularly relevant when dealing with the data of child second language learners whose limited proficiency warrants the inclusion of more comprehensive coding categories capable of reflecting even small signs of learning.

II. 3. Contribution of the present study

Throughout this review of theory and research into the language learning potential of written corrective feedback a number of issues have been singled out that require further exploration in order to advance our understanding of the instrumental role that writing and feedback might have in the language learning experience of young foreign language learners. In what follows, these issues will be briefly drawn together to outline some of the limitations that persist in contemporary research.

Firstly, process-oriented studies of model texts have deployed a number of analytical categories to document learners' noticing of problems from the production of an initial text through to the noticing of solutions to those problems when exposed to feedback and their eventual incorporation into a revised text. However, most research has focused narrowly rather than comprehensively on the analysis of data by using dichotomies that no longer account for the full range of phenomenon which emerge during text generation and feedback analysis. They have also adopted an essentially quantitative approach to learners' problem-solving behaviours, which does not provide sufficient information on the processing mechanisms they might activate during these tasks. As a result, we currently have a fragmented and incomplete picture of what learners do at each stage of the writing and feedback task and very little evidence on how they do it. These limitations raise two important challenges. The first involves developing a systematic and inclusive coding scheme to describe the diverse combinations of possibilities or routes available to learners across the multi-stage task, and the second entails identifying the processing mechanisms deployed by young EFL learners when noticing problems in their written output and solutions in the feedback. It is hoped that the exploration of these intersecting dimensions in the present study might elucidate further the role of WCF in fostering second language learning.

Secondly, the use of model texts as a feedback strategy has proven valuable in providing learners with linguistic and ideational content that can help them notice new form-meaning mappings, fill holes and gaps in their existing L2 knowledge and stretch their linguistic resources to new limits in their attempts to process and use the feedback to upgrade their subsequent written output. The potential impact of models on second

language development has been shown to be mediated by a number of learner-internal and external factors that affect learners' ability to take full advantage of the opportunities made available to them. In this respect, a crucial question that needs to be addressed is whether internal constraints involving proficiency levels, input processing capacity and developmental readiness might not be alleviated externally through instruction. So far, this hypothesis remains unexplored in existing research with adults and with children. The two studies that have examined children's writing and feedback processing coincide in pointing out the useful role that models played in promoting the noticing of lexis, ideational content and chunks of language, as well as improving the overall quality of learners' texts. They were not so useful, however, for promoting attention to grammatical features or for ensuring the successful integration of previously noticed ideas and expressions into children's writing. This seemed to be especially true for lower proficiency children who noticed salient lexical items and phrases in the model with relative ease, but then proved unable to fully understand them (Coyle & Roca de Larios, 2014) or to retrieve and use them successfully to upgrade their written texts (Cánovas et al, 2015). These reported difficulties alert us to the possibility that management of contextual variables, especially pedagogical intervention, may be useful in helping learners overcome their internal limitations. Several questions remain unanswered. Can in-class instruction that promotes noticing and metalinguistic reflection help learners diversify their linguistic concerns to focus more on language form? Can collaborative reflection while writing and discussing feedback help learners to understand and process L2 input through knowledge sharing? Can the combination of both factors help young learners advance beyond the linguistic threshold imposed by their low proficiency level? These are issues that the present study will attempt to explore.

Thirdly, the empirical evidence reviewed above on the use of model texts points to the short-term impact of feedback processing on the uptake and improved acceptability of learners' L2 writing. These findings emerge from studies that have examined learners' noticing using mainly quantitative measures. However, some of these authors have also offered genuine insights into the ways in which noticing may be conducive to language learning by discussing brief samples of learners' verbal report data (Hanaoka, 2006 b), written notes (Hanaoka 2007) or collaborative dialogues (Yang & Zhang, 2010), together with evidence extracted from their written texts. There are two important lessons to be learned from this. First, it is clear that there is a real need for research to examine actual

instances of learners immersed in feedback processing and text revision in order to identify possible links between learning outcomes and the nature of learners' engagement with feedback. Recent attempts at doing so have been initiated by Storch and Wigglesworth (2010) and Wigglesworth and Storch (2012), who compared ESL students' processing, uptake and retention with reformulations and editing symbols using a case study design, and by Han and Hyland (2015) who performed a naturalistic multiple-case study of four Chinese EFL learners. Both of these investigations have shown how the complex interaction of linguistic, cognitive and affective factors can influence engagement with feedback. In each case, findings were obtained either through the detailed and integrated analysis of product (written texts) and process (collaborative dialogue) (Storch & Wigglesworth, 2010; Wigglesworth & Storch, 2012), or through the combination of various data collection techniques including class observation, interviews and written texts (Han & Hyland, 2015). It is clear, then, that efforts should be made to gather rich, qualitative data to elucidate the ways in which learners' engagement in multi-stage tasks might contribute to their language development. To the best of our knowledge, this has not yet been attempted with young EFL learners in an instructional context and with model texts as the selected feedback source.

Finally, it is still an empirical question whether or not long-term engagement with writing practice and feedback can bring about learning (Manchón, 2011b). The short-term focus of existing research using a single piece of writing has proved insufficient to advance a research agenda that aims to explore feedback for acquisition. Results from studies involving focused and unfocused feedback are promising in this sense, but nothing is known, as yet, about the potential of models to contribute to second language learning. This would require a longitudinal study of learners' sustained performance over time that would allow for the documentation of changes in their L2 output that might be indicative of developmental progress. Learners' written production would have to be charted across different cycles of writing and feedback provision in order to find evidence of 'development'. Following Sachs and Polio (2007), this might be found in the on-going and irregular changes in learners' linguistic and metalinguistic behaviour. The present research aims to take up these challenges in an attempt to determine whether the different actions or trajectories followed by young EFL learners upon noticing problems in their written output, and when analysing models collaboratively, might contribute to the nature of these gradual changes in their interlanguage development over a five month time

period. In doing so, this study adds a new dimension to the exploration of the language learning potential of written corrective feedback.

The research context, participants and methodological procedures followed to collect and analyse data are described in the following section.

Chapter III:

Method

III.1. The research context

The present study was conducted in a state school in a small village near the city of Murcia, in southeast Spain. It was a very small school with 5 classes and a total of 70 children. Due to the reduced number of pupils, some classes had two year groups combined in the same classroom, for example grades 1 and 2, and grades 5 and 6. The older of these two mixed-age range groups participated in this research. Generally speaking, the socioeconomic level of the pupils' families may be regarded as medium-low due to low family income and parental education. The majority of the parents had only basic studies and they were either unemployed or only one member of the family worked in full-time employment.

Despite the recent expansion of bilingual education in schools in the region of Murcia, this school did not form part of the bilingual program. The children had been learning English for 4 or 5 years, receiving, on average, 2 hours of English classes per week in Primary Education. In general, the children were not very academically motivated or stimulated by their parents. In their EFL classes, the participants' former teacher had followed a traditional English language textbook for young learners over a number of years, which had emphasised the teaching of grammar and vocabulary. Teaching was often carried out in the L1 and the development of comprehension skills (listening and reading) was accentuated over speaking and writing. Therefore, the children had experienced few opportunities to speak or write freely in the L2. During the academic year of the study, their new EFL teacher (who was also the researcher) implemented a more communicative approach in the classroom based on promoting interaction and the productive use of the L2 through oral activities such as role-plays, songs and conversation activities in pairs or in groups. Writing activities including interviews, e-mails, descriptions, short stories were also introduced in both groups and covered topics such as

thanking or congratulating someone, issuing an invitation or giving personal information or brief descriptions about their daily lives.

III.2. Participants

The participants in the study were 16 children forming a total of eight pairs (9 boys and 7 girls) from two EFL classes in primary education, grade 4 (four pairs aged 9-10 years old) and a mixed grade 5/6 (8 children, four pairs aged 10-11 years old, respectively) (see Table 2 below). Prior to the study the children's parents were informed and their permission was granted by signing an authorization, which allowed the children to participate in the research.

The two EFL classes were designated as the teaching group (grade 5/6) and the non-teaching group (grade 4), since despite the age difference, the children in both classes had overall similarly low levels of L2 competence. This was further compensated for by the fact that two participants from the non-teaching group attended extracurricular English lessons once a week. Within each group, the children were placed in proficiency-matched pairs (Table 2) based on their performance on class tests; two pairs at a higher proficiency level (ratings from 7 to 10 out of 10) and two at a low proficiency level (ratings from 4 to 6 out of 10). The class tests, which were performed once a month, consisted of a listening activity (identifying specific information and main ideas from a text which contained simple structures and high frequency vocabulary), a reading activity (identifying the topic, main ideas and specific information in a text with high-frequency vocabulary and structures), a writing activity (producing a short personal or descriptive text) and a speaking activity (participating in a brief conversation on familiar topics). The monthly tests provided the teacher with in-depth knowledge of the children's proficiency in English at the time of the study. In this respect, and although standardized tests have often been used to place learners, previous research has also acknowledged that, in ordinary classrooms, it is often the teacher's ratings that are used to pair pupils (Coyle & Roca de Larios, 2014; Leeser, 2004). Apart from their average monthly test scores, the teacher/ researcher also took into account the children's ability to work together and their degree of involvement in regular classroom activities to form the pairs. In this respect, the different dyad members had a good level of mutuality (the degree to which learners engage with each other's ideas)

and equality (the degree to which they share control over the task), (Storch, 2002). This was considered important in order to avoid a potential imbalance in each child's individual contribution to the writing task, a phenomenon that can occur in mixed-proficiency pairs when an asymmetrical relationship between the two members impacts negatively on their interaction (Storch, 2013).

Table 2
Participants

PARTICIPANTS					
Group	Pair	Proficiency	Age	Gender	Profile
Teaching group (TG)	1	High	11	2 girls	Responsible and hard-working, the most motivated of all the pairs. They loved English. Exam marks from 8 to 9.
	2	High	10	2 boys	Moderately motivated and confident with their English. They liked English and they wanted to obtain good marks. Exam marks from 8 to 9.
	3	Low	11	2 boys	Not very hard working or motivated. They were satisfied with passing the exams. Exam marks from 4 to 6.
	4	Low	10	2 boys	Not very hard working or motivated. They were satisfied with passing the exams. Exam marks from 4 to 6.
Non-teaching group (NTG)	1	High	9	1 boy/1 girl	Moderately motivated and confident with their English. They liked English and wanted to obtain good marks. Exam marks from 8 to 9.
	2	High	9	2 boys	Not very motivated or confident with their English. Exam marks from 7 to 8.
	3	Low	9-10	2 girls	Hard-working and motivated but with difficulties to learn the language. Exam marks from 4 to 6.
	4	Low	9-10	2 girls	Not very hard working or motivated. They were satisfied with passing the exams. Exam marks from 4 to 6.

III.3. Research Design

The present empirical study was exploratory and longitudinal in nature. A case study approach (Duff, 2012) was adopted with a view to examining in close detail the children's performance over an extended period of time. It was hoped that by looking in depth at the developmental patterns of a small group of learners, we might obtain insights into their writing and processing of written corrective feedback, which could further our knowledge of the language learning potential afforded by both. Providing a qualitative description of the trajectories or pathways followed by learners of different proficiency levels and under different instructional conditions, in combination with the comparison of their written output across four different time periods (the original drafts and revised versions in two writing cycles) was felt to be more desirable for our research goals than large-scale statistical testing with a larger population. Consequently, we designed an intervention with two multi-stage writing cycles of 1 week (composing, comparing and rewriting), four months apart, which were carried out by both the teaching and the non-teaching group. In addition, after the first cycle, a six-week teaching period was implemented and addressed only to the former. Data were collected over a period of five months (from April to September) as shown in Figure 2.

The participants were assigned as the teaching group (experimental group) and the non-teaching group (control group) in order to isolate any potential differences resulting from the instructional treatment. This was considered important as research on the use of models to date (Hanaoka, 2006, 2007; Yang & Zhang, 2010), with the exception of Cánovas et al. (2015), has not compared their results with those of a control group, and so has not provided information on how a non-treatment group might have performed in identical conditions.

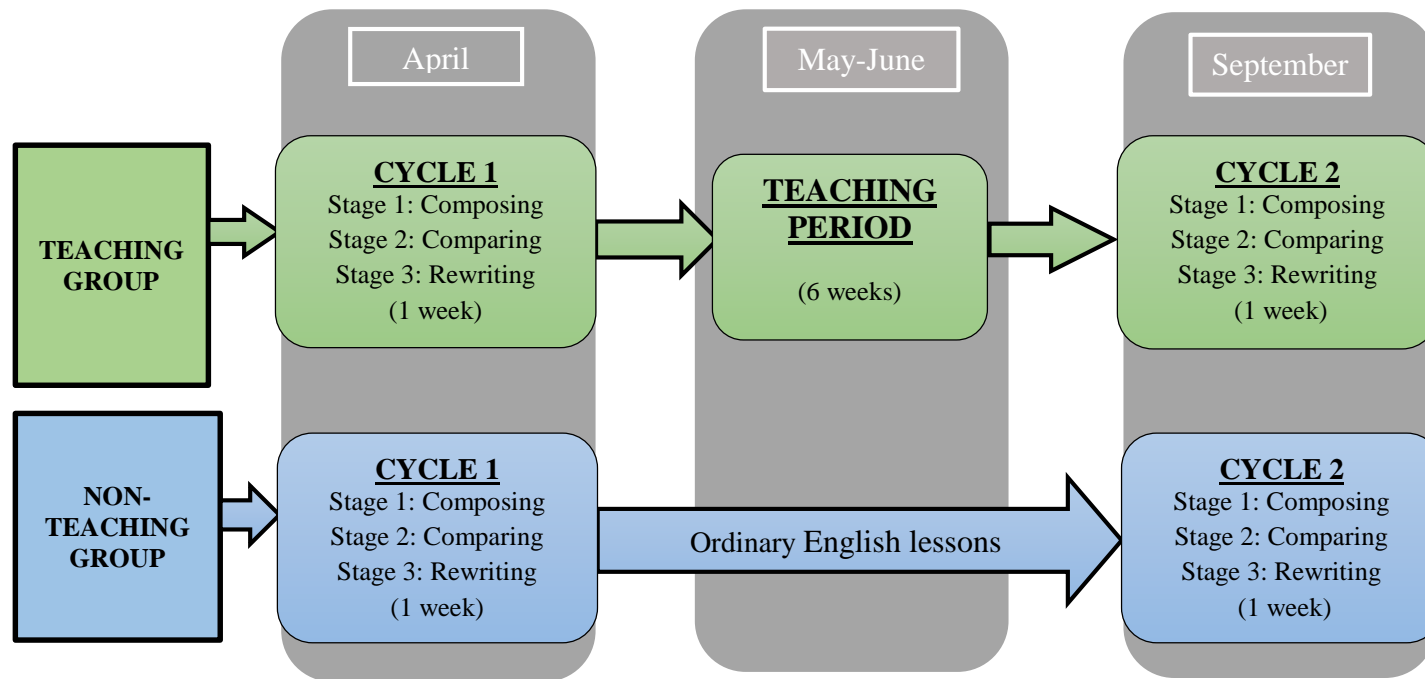


Figure 2. Research design and schedule.

Designing classroom-based research with two groups of children, one of which is excluded from potentially beneficial treatment sessions might be considered as ethically problematic (Loewen & Philp, 2012). However, it is also true that the inclusion of a control group in classroom-based studies can play an important role in providing evidence-based research that can drive innovation and progress in the field of education. Ethical dilemmas can also be avoided when measures are implemented to ensure that a control group is provided with the same opportunities to benefit from the impact of an instructional intervention as their counterparts in the treatment group (Slavin, 2013). In this sense, the schedule of the present research was decisive as delayed teaching sessions with the children assigned to the non-teaching group were planned for the first term of the school year once the study was completed. This would ensure that should the teaching sessions on the use of model texts prove useful, these children would not be deprived of their effectiveness.

As part of the research design, the participants were asked to write a composition in pairs. The decision to have the children write a text collaboratively was motivated by research with adults that has argued that the opportunity of discussing with peers problems that emerge during the writing process appears to promote the noticing of language at a whole range of lexical, syntactic, and discourse levels and thus lead to more effective problem solving (Swain & Lapkin, 2002). This use of language, or metalinguistic reasoning has been described in terms of collaborative dialogue (Swain, 2000) or languaging (Swain, 2006), and is assumed to involve interactional processes of repetition, deliberation and explanation of linguistic alternatives, which are held to lead learners to deeper levels of awareness regarding the relationship between meaning, form and function (Storch, 2008). Along with these effects, collaborative writing has also been found to give learners the opportunity of sharing and verbalizing their thought processes (Storch, 1999, 2005; Wigglesworth & Storch, 2010). Peer collaboration might also provide the support needed to address the difficulties that children of this age can have in using their metacognitive knowledge appropriately (Englert & Raphael, 1988, cited in Yarrow & Topping, 2001). Evidence that child L2 learners are capable of writing collaboratively was provided in recent studies by Cánovas et al. (2015) and by Coyle and Roca de Larios (2014). Furthermore, writing in pairs may lead to gains in accuracy while also creating a context for language learning (Storch, 2005). Consequently, the children in our study were asked to work in pairs, and to try to identify and find a solution for any problems they might

encounter during the different tasks: writing their original texts, comparing their text to a model text and rewriting their original compositions.

III.4. Data collection

The data collection procedures consisted of two multi-stage writing cycles and a teaching period, explained as follows:

III.4.1. Cycle 1

The first cycle was implemented in the third term of the academic course 2012-2013 during the last week of April. It consisted of three stages: stage 1 (composing task), stage 2 (feedback analysis task) and stage 3 (rewriting task). These tasks were audio-recorded and carried out by all pairs in both groups, the teaching and the non-teaching group, one pair at a time, who met with the researcher outside the classroom, in a small, quiet room in the school to prevent children from being disturbed during the process. The pairs felt relaxed and comfortable with the researcher since she was also their EFL teacher, therefore, psychological reactivity effects, such as shyness or reluctance to talk did not occur. While the pairs performed the different writing and feedback tasks with the researcher, the rest of their classmates continued with regular lessons under the supervision of a colleague.

All the instructions for each task were given in Spanish to ensure that the procedure was fully understood and the children were allowed to speak in the language of their choice (English or Spanish). It was anticipated that the children would use their L1, although some sporadic use of English might occur. In fact, use of English by the children was practically non-existent, other than the language required to complete their stories. The intention in allowing both languages was simply for the children to feel comfortable when carrying out the tasks without worrying about trying to communicate in the L2. As time management was not a main concern in this study, the participants were allowed to spend the time they needed to complete the different tasks. Most of the pairs spent an average of 20 minutes on each task. This decision was taken on the basis of Sachs and Polio's (2007) suggestions regarding the relevance of expanding time on task to facilitate the processing of feedback.

The different stages were expected to provide the participants with opportunities to notice linguistic problems as they composed, notice gaps between their interlanguage and the target language by comparing their own written texts to the model provided, and, finally, rewrite their first draft after comparison with the model. These expectations were based on previous studies that have shown the usefulness of multi-stage tasks in eliciting those behaviours among L2 writers (e.g., Adams, 2003; Hanaoka, 2006a, 2006b, 2007; Martínez & Roca de Larios, 2010).

At Stage 1 (Composing stage), the children were asked to jointly write a story in response to a set of pictures (Appendix 1), to discuss any problems they found while writing the composition and to try to reach an agreement on how to solve those problems. The story used in the task was a simple six-frame picture story prompt about a *Witch*, drawn by another experienced EFL teacher and co-researcher bearing in mind the children's age and level of L2 proficiency. The children were asked to write a story using the pictures; no indications were given regarding the use of specific vocabulary, expressions or verb tenses. The children were free to complete the task using English to the best of their ability. The children's compositions at stage 1 are provided in appendices (Appendix 2).

At Stage 2 (Comparison stage), two days after the first stage was completed, the pairs were provided with the stories they had written and two model texts (Appendix 3). They were asked to compare their text with the models discussing any differences they could find between the texts. They were also instructed to underline the differences on the model and /or make a written note of them on the same sheet. The comparison worksheets are shown in appendix 4. Initially, two model texts were used, following Hanaoka (2007), "to reduce the chance of participants' mindless copying from a single model text, and to increase the chance of providing solutions to the problems that the participants incidentally noticed" (p. 462). However, the use of a second model was later discarded (in cycle 2) as the children tended to focus exclusively on the first model. In cycle 1, all the pairs skimmed over model 2 superficially and simply stated that it was completely different from their own text without engaging in any further analysis. For this reason, given that the children proved unable to handle two different models, it was decided to only one model text in cycle 2. All model texts used in the study were written by the teacher/researcher bearing in mind the story portrayed in the pictures and the children's level of English. Since the children were not yet fully familiar with the past tense, the model text was written in the present

tense; however, it was written a little above the children's current level of linguistic competence so that it might suppose a challenge when learners compared it with their original compositions. The motivation for doing so was based on the idea voiced by Ortega (2009b):

'Optimal L2 learning must include opportunities for L2 use that is slightly beyond what the learner can currently handle in speaking or writing, and production which is meaningful and whose demands exceeds the learners' current abilities is the kind of language use most likely to destabilize internal interlanguage representations' (p63).

The model texts, therefore, included familiar elements (eg. cat, eat, drink, juice...) as well as some new expressions (e.g. suddenly, fall in love with...) and complex sentences (e.g. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich) that the children had not yet seen in their EFL classes, but which were thought to be attainable for them.

At Stage 3 (Rewriting stage, post-test), one week after having completed the task in stage 1, the children were given the pictures again and they were asked to rewrite their stories (for the revised stories see Appendix 5). The decision not to give the pairs their original text produced at stage 1 was made to reduce the chance of children's simply copying from their text, and to increase the chance of providing new solutions to the problems they noticed (Hanaoka, 2007).

III.4.2. Teaching period

After cycle 1 was completed, a period of 6 weeks (May-June) was devoted to training the teaching group on how to use models. In their EFL classes, one weekly lesson (a normal 60 min lesson) was spent teaching the children to compare different model texts with their initial drafts.

As we can observe in the figure below (Figure 3 below), the six teaching lessons were divided into 2 parts. First, the children completed a composing stage (20 min) in pairs and then participated in a whole class activity in which the teacher guided them in how to use a model text for comparison purposes (40 min). In the composition stage, the children were asked to write a story in pairs in response to a set of pictures (Appendix 6 to 11). The

pictures were simple six-frame picture story prompts, one drawn by the same teacher as in Cycle 1, and the remaining five stories were chosen from a textbook (*Cool Kids* by Oxford University Press), all with similar levels of difficulty and an element of fun. The first story was about a girl's daily routines, the second was about the three little pigs, the third was related to a wizard who casts a spell on two children to make them tiny, and the last three stories were about a child using a magic pencil that turns drawings into real objects to solve different problems or situations. In the guided comparison process, six models of the stories (Appendix 12) written by the teacher and tailored to the children's age and level of L2 proficiency were used.

The guided comparison was carried out with the 4 pairs in the teaching group through whole class discussions (the teacher mainly in English and the children mainly in Spanish) as follows. After the children's stories were written and collected, the learners were provided again with the picture story prompt and they were prompted by the teacher to describe it in the L1 so that the meaning of the drawings could be clarified collectively.

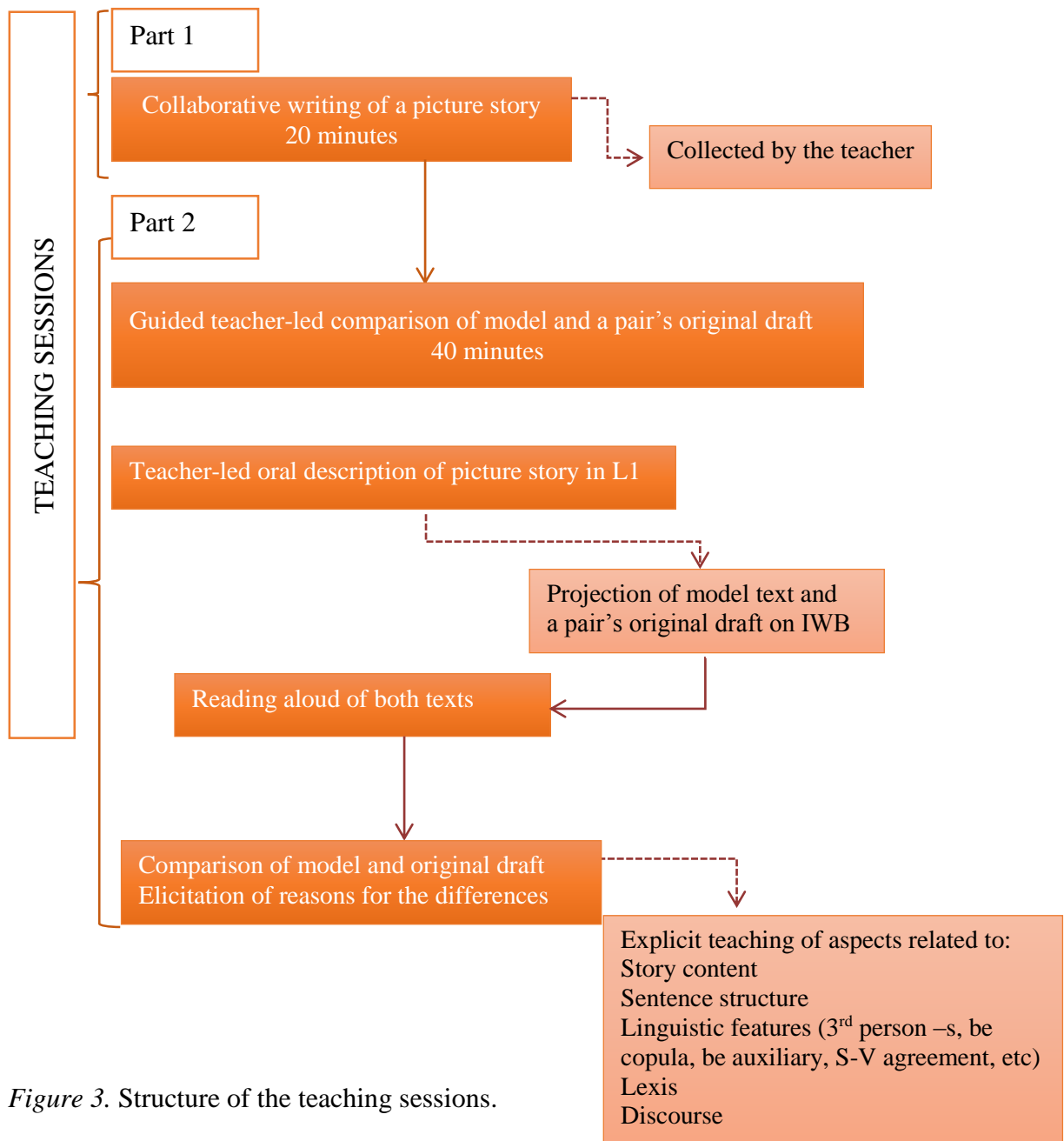


Figure 3. Structure of the teaching sessions.

Then, the teacher projected the model on the IWB and wrote one pair's original text on the blackboard (each week a different pair was chosen). The teacher read aloud both texts and the children followed by reading silently. The children were then asked to identify all the differences they could find between the model text and their classmates' version. As children are competitive in nature, soon this whole class discussion became a game for the learners who tried to find as many differences as possible. In order to avoid the "spot the difference" tendency detected in previous studies with children (Cánovas, et al, 2015), the students were requested to explain the reason behind every noticed item. The children raised their hands when they found a difference and tried to explain to the rest of the class a reason to justify the difference with the teacher's help. The teacher continually scaffolded the children's explanations by helping them to explain the reason underlying their noticing, since, on many occasions, they identified a difference but were unable to provide a metalinguistic explanation, especially with grammatical aspects.

Through this guided class discussion, the teacher attempted to raise the children's awareness of five broad categories, namely, (i) the story content, (ii) sentence structure, (iii) grammar, (iv) vocabulary and (v) discourse, as clarified in Table 3 below. This decision was motivated by the categories outlined in Qi and Lapkin (2001), as well as the suggestion proposed by Yang and Zhang (2010: 480) that:

‘to gain more benefits from [the native] models, the learners need to be guided to pay attention to the changes or specialties at the discourse level, especially in model texts, in addition to noticing the native-like language use (e.g. lexis and form)’.

Consequently, when the children found a difference between the text and the model version, the teacher underlined it on the IWB, wrote it on the blackboard and explained linguistic or textual aspects related to the previous categories. For instance:

(i) Content:

When the children found a content-related difference, the teacher clarified that both texts did not include identical information, and that the model could be used as a source of ideas to include in their writing. For example, a common content difference noticed by the children was the spatial location of the story characters in the models. This led the children to make strategic comments on their future writing such as ‘Next time, we should include the place’.

(ii) Sentence structure:

In this section, children generally noticed that the model contained longer sentences. Consequently, the teacher explained that longer and more complex sentences could be produced by using connectors such as ‘when’ or ‘but’.

(iii) Grammar:

Within this category, for example, the learners often noticed that the children’s texts lacked the third person –s on verb forms. However, they were unable to explain the linguistic rule underlying the difference. As a result, the teacher spent time in every session explaining relevant grammar rules such as the 3rd person singular of the present simple, be copula, be auxiliary or subject verb agreement using examples from the children’s writing and the model texts. This attempt at assisting learners to make form-meaning connections during input processing is one of the salient characteristics of processing instruction, as attested by Van Patten (2002), and held to impact on their developing language systems.

(iv) Lexis

Considering lexical differences, the learners often inquired as to the meaning of lexical items in the models they were exposed to. They also began to notice the L2 forms in the models for L1 words in the original texts.

(v) Discourse:

When children identified discourse markers such as ‘finally’ in the model texts, the teacher spent time highlighting textual differences such as story structure (beginning, middle and ending) and the use of story-writing terminology (Once upon a time, one day, first, after that, then, next, and finally) as a way of helping the children to improve their narrative texts. When this process was repeated a couple of times, the children were able to differentiate clearly the three parts in the story and they tried to include them in their own texts.

Throughout the lessons, the teacher observed that children gradually became increasingly aware of more differences between the sample texts and the models, and of a greater variety of categories. More importantly they were progressively more able to explain these differences.

The children in the non-teaching group did not receive any instruction on how to use models. They attended their regular English lessons as normal during the six weeks in which the teaching group participated in the treatment. In their EFL classes, they were asked to perform the usual writing exercises in their textbook and a short personal description but they did not work with models.

Table 3

Categories of possible differences between the model texts and the children's texts

Categories of possible differences				
	Children's text	Model	Children's verbalized noticing in class	Teacher's explanation to the class
1. Content	-	<i>the classmates laugh at her</i>	Ellos no han puesto que los niños se rien de ella... [They did not put the children laugh at her...]	This is a content difference. This pair did not include this information in their text
2.Sentence Structure	<i>At half past six Paula doing karate. At quarter past seven Paula playing voleibol.</i>	<i>When she finishes karate, at a quarter past seven, she plays handball.</i>	En el modelo escribieron frases más largas. [In the model, they wrote longer sentences.]	This is a difference related to sentence structure. In this case, the children wrote two simple and short sentences and the model contained longer and complex sentences using "when".
3.Grammar	<i>Paula playing voleibol</i>	<i>She plays handball</i>	Playing-plays. La "S" de tercera persona... [The "s" 3rd person...]	In the model text, the verb "to play" is used in the present simple tense, 3 rd person singular "plays", and in the sample text the pair tried to use the present continuous form "is playing" but they wrote it incorrectly "playing", missing 'is'.
4.Vocabulary	<i>Paula playing voleibol</i>	<i>She plays handball</i>	<i>Handball and voleibol.</i>	In the sample text, the pair did not know how to write 'handball' in the L2 and they wrote 'voleibol' in the L1.
5.Discourse	-	<i>Then, she goes swimming at half past five. After that, she goes to karate at half past six. When she finishes karate, at a quarter past seven, she plays handball.</i>	Then, after that, when... Todo eso ellos no lo han puesto. [All of that they did not put it.]	These are textual differences, all these words are connectors, they are sequence words we must use when writing a story. All stories have a beginning, a middle and an end, so we have to use these words to connect what happened in a story: Once upon a time, one day, first, then, next, finally...

III.4.3. Cycle 2

After the summer holidays, in the first term of the next academic year 2013-2014, Cycle 2 was implemented during the last week of September. In this second cycle, the same three-stage task (composing, comparing and rewriting) as in cycle 1 was carried out by the children in both groups. The children in the teaching group had by now moved on to high school and so were invited to return out of school hours to complete the data collection process. The non-teaching group completed the tasks as in cycle one. This time they spent on average around 10 minutes on each task. In this cycle, we used a different six-frame picture story prompt (a story about a scientist, drawn by the same co-researcher, Appendix 13) that had in common with the one used in Cycle 1 the same level of difficulty and an element of fun. As stated before, in this cycle we took the pedagogical decision of using only one model (Appendix 14) taking into account the difficulties children had encountered at cycle 1 when facing the process of comparing their texts to two models. In this cycle, it was expected that any possible gains from the instruction given during the teaching period would be observed; if learners were able to use their experience with models to improve their noticing and ultimately the quality of their revised texts (see Appendix 15, 16 and 17 for the original texts, comparison worksheets and revised texts at cycle 2, respectively).

III.5. Data analysis

The data for the study consisted of:

- 1) 16 narrative texts and 16 audio-recordings with all the participants' discussions about their original stories. (Cycle 1 and Cycle 2)
- 2) 16 sets of written notes and 16 audio-recordings of the pairs' conversations during the comparison of their written output with the model text. (Cycle 1 and Cycle 2)
- 3) 16 re-written narrative texts and 16 audio-recordings with the children's discussion of the revised story. (Cycle 1 and Cycle 2).

III.5.1. Analysis of the processes within stages

The qualitative nature of the study meant that the data were analysed cyclically. Figure 4 below, represents graphically the data analysis procedure followed. The vertical arrows represent each of the three stages of the multi-stage task and the categories within each stage that were used to code the data.

The horizontal arrow, which comprehends all three vertical arrows, represents the combined and sequential analysis of the data *across* stages with further categories that allowed for the identification of the Trajectories. In this sense the diagram should be read firstly vertically and then horizontally. This process is described in greater detail below.

Firstly, the data were analysed within each individual stage separately (stage 1 composing; stage 2, feedback comparison; stage 2, rewriting) before engaging in a combined analysis of all three stages in both cycles sequentially in order to obtain longitudinal data from before and after the teaching intervention. The identification of the coding categories was obtained inductively through multiple readings of the dialogue protocols and careful refinement of the categories to arrive at definitions by consensus. The analysis of the entire data corpus was carried out by the researcher in collaboration with both thesis supervisors. This involved the individual reading and coding of the data by each rater separately focusing on specific data analysis categories at different moments in time. The results of individual coding were then continually discussed and ideas were shared and compared in order to arrive at jointly negotiated decisions. This was done with the whole data set for all of the eight pairs in the study. In doing so, we followed a procedure outlined by Smagorinsky (2008) for whom this type of collaborative approach is “more likely to produce an insightful reading of the data because each decision is the result of a serious and thoughtful exchange about what to call each and every data segment” (p 402). This joint approach to the coding of the data was applied throughout the study for the within-stage and across stages analyses.

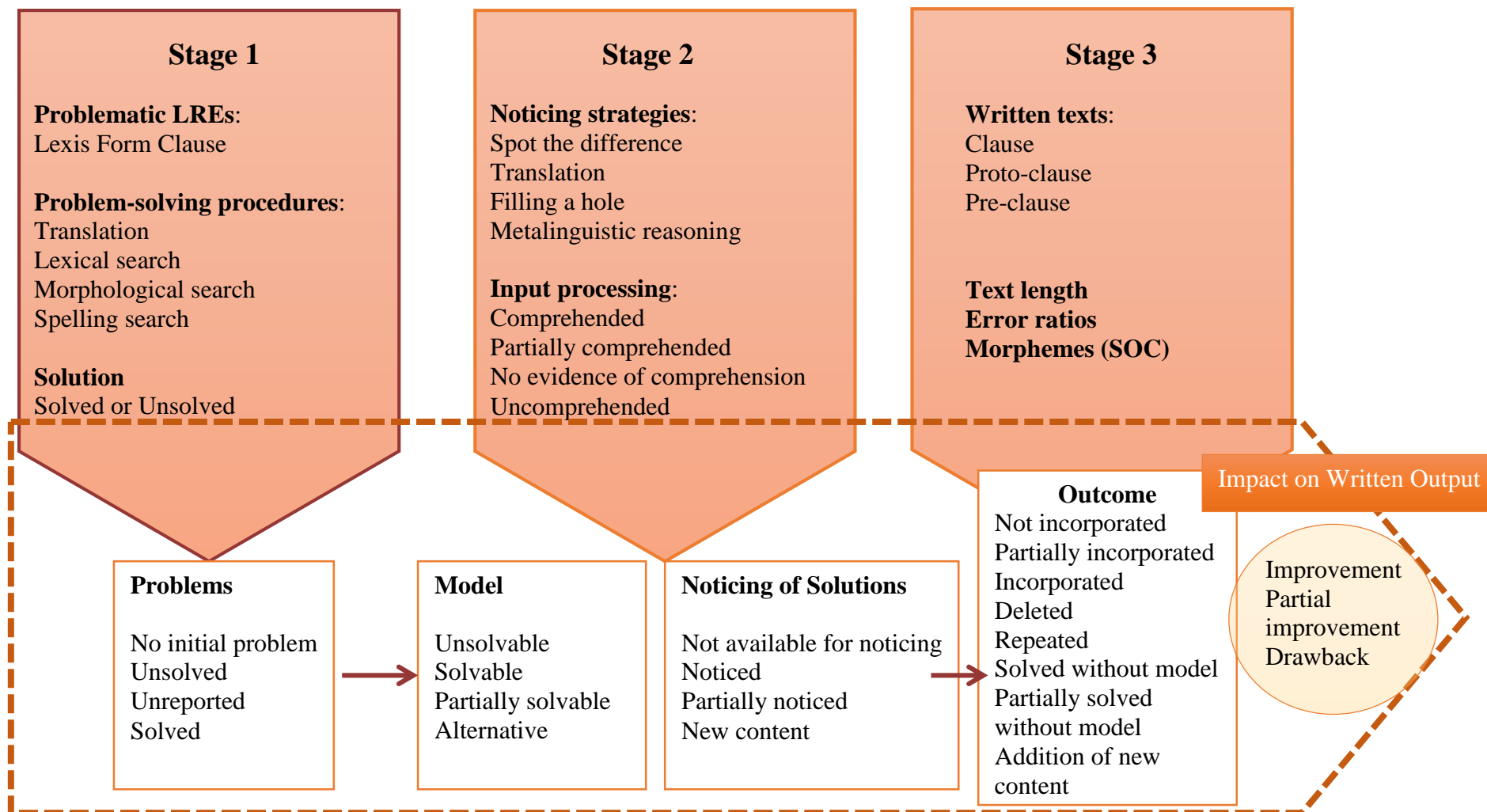


Figure 4. Data Analysis categories within and across the multi-stage writing task.

III.5.1.1. Stage 1: Composing stage

After the two cycles of writing, feedback analysis and rewriting had been completed by the participants, the audio-recordings of the pairs' dialogues were transcribed for analysis using ordinary orthographic conventions. Each resulting protocol was then segmented into language-related episodes (Swain & Lapkin (2002, p 292), defined as “any part of the dialogue where learners talk about the language they have produced, and reflect on their language use. This unit was chosen on the grounds of its usefulness and pervasiveness in existing research on reformulations and models (eg Qi & Lapkin, 2001; Storch & Wigglesworth, 2010, Coyle & Roca de Larios, 2014). Noticing was operationalized in the writing and rewriting stages of both cycles 1 and 2 as any problematic features that the learners spoke about when attempting to produce written output in the L2, in accordance with Izumi's (2013) account of ‘noticing the hole’ and ‘noticing the gap’.

Each language-related episode identified in the data was coded for (i) the linguistic aspects attended to (lexis, form or discourse), (ii) the procedures used by the participants to solve the problems they posed to themselves and (iii) the resolution of the episode (solved/unsolved).

Linguistic aspects attended to (the focus)

Firstly, as for the linguistic aspects attended to, the dialogue protocols were coded according to the focus of the conversation, in terms of language- related episodes (LREs).

LREs were further categorized according to the linguistic aspect the learners focused on, following Qi and Lapkin (2001).

- Lexis (L-LRE): nouns, noun phrases, adjectives, adverbs, verbs, pronouns, articles and prepositions.
- Form (F-LRE): verb form, verb tense, and spelling.
- Discourse (D-LRE): achieving logical sequencing (cohesion, coherence), achieving intersentential clarity, and stylistics.

In order to illustrate the coding of the previous categories and subcategories of LREs, a selection of examples is given in the table below (Table 4).

Table 4

Linguistic aspects attended to (the focus)

LINGUISTIC ASPECTS ATTENDED TO (THE FOCUS)	
LRES	EXAMPLES
Lexis (L-LRE)	<p>L-LRE (noun) Pair 3, Control Group (LL) P2: Murciélago, ¿cómo se decía? Está relacionado con unos dibujos...Superman...Spiderman... [Bat, how do you say it? It is related to a cartoon. Superman...Spiderman...]</p>
	<p>P2: Batman! Man es hombre, entonces el murciélago será bat... [Batman! Man is man, then bat must be bat] (Solved)</p>
	<p>L-LRE (noun phrase) Pair 4, experimental Group (LL) P2: De noche... [At night...] P1: ¿Pero tú te acuerdas de escribir de noche? [But do you remember how to write “at night”?] P2: N-i-g-h-t. Night. The night... P2: ¿Pongo the? [Shall I write “the”?] P1: Sí. [Yes] The night. (Unsolved)</p>
	<p>L-LRE (adjective) Pair 2, experimental Group (HL) P1: El lobo vegetariano [The vegetarian Wolf P1: The vegetable... P2: No, es vegetal, vegetal garden... P1: Vegetal, es verdura. No querrás poner un lobo hecho de verduras... [Vegetal is vegetables. Don’t you wanna put a wolf made of vegetables...] P1: The vegetable wolf. (Unsolved)</p>

L-LRE (adverb)

Pair 2, experimental Group (HL)

P1: **Mientras**, mientras... Something? No. After. [While, while...something? No. After]

P2: After es después, creo. [“After” means “after”, I think]

P1: Bueno, escribe después, **after**. [Well, write “after”] (Unsolved)

L-LRE (verb)

Pair 1, experimental Group (HL)

P2: The black bat...¿**Se despierta**? [The black bat ¿Wakes up?]

P1: Se despierta... [Wakes up...]

P2: A ver, ¿cómo se decía “se despierta”? [Let’s see, how it was said “wakes up”]

P1: Get up. No, no... **Wakes up!** Se despierta, get up es se levanta... [Yes, get up. No, no. Wakes up! He wakes up, “get up” means he gets up] (Solved)

L-LRE (article)

(Pair 1, experimental group (HL))

P2: Convertir the cat...[transform the cat]

P2: Pero, **“the”** ¿qué significa? La bruja, por ejemplo...Entonces, convertir la gato... [But “the”, what does it mean? The witch, for example...Then, transform the cat...]

P1: El gato, “the” es para femenino y para masculino, significa la y el. [The cat, “the” is feminine and masculine, it means “la y el”]

P2: Ah... **the** cat in bat.

L-LRE (preposition)

Pair 1, Control group (HL)

P1: El zumo de la bruja. [The witch’s juice] The juice the witch...

P1: The juice the witch...Quizás hay que poner **“of”**, of the witch... [The juice the witch... Maybe we should put “of” of the witch...]

P2: Es que yo creo que son muchos “the”...The cat drinking the juice the witch. [I think there are so many “The”. The cat drinking the juice the witch. P1: Of the witch. (Unsolved) .

Form (F-LRE):	F-LRE (verb form)	Pair 1, experimental group (HL)
	P2: And él se enamora... Love ... [And he falls in love...Love...]	
	P1: The bat love the white bat... P1: Pon una “S”. [Put an “S”] P2: No, loving no... Loves, loves... P2: Loves. (Solved)	
	F-LRE (verb tense)	Pair 4, experimental group (LL)
	P1: El murciélago está durmiendo ... [the bat is sleeping] P2: And bat está durmiendo... (and bat is sleeping) P1: Sleep, sleep. [Sleep, sleep] (Unsolved)	
	F-LRE (spelling)	Pair 4, experimental group (LL)
	P1: The witch finis de orange juice. Finis, está mal escrito. [The witch finishes the orange juice. “Finis” is written incorrectly] P2: Yo lo sé! Fhinis! [I know! “Fhinis!] P1: No, creo que es finihs. [No, I think is “finish”] (Unsolved)	
Discourse (D-LRE)		Pair 1, experimental group (HL).
	P1: Espera, entonces...Nos haría falta poner “entonces”...No, podemos poner “after” que es después, creo que es después. [Wait, then... We need top ut ‘then’...No, we can put ‘after’ that is later, I think it is later on.] P2: Sí. After... [Yes, after...]	

(II) The resolution of the episode.

Secondly, the procedures that the participants engaged in when attempting to solve the language-related episodes they encountered while writing their texts were also coded. A LRE was considered complete when the learners either found a solution to their problem or left it unsolved and continued writing their narratives. Following Hanaoka (2006a), Hanaoka and Izumi (2012) and Yang and Zhang (2010), each LRE was also coded initially as *solved* or *unsolved* depending on the outcome the pairs arrived at after discussing the problem. An example of each one is given in Table 5 below.

Table 5
Resolution of the episode

Unsolved episode	Solved episode
Pair 1, teaching group (cycle 1)	Pair 1, teaching group (cycle 1)
F-LRE (Su)	L-LRE
(Morphological search)	(Lexical search)
P2: Your...No, your sería...Tu...Segunda persona [No, your would be “your” second person]	-P2: The black bat...¿Se despierta? [The black bat...Wakes up?]
P2: La bruja mira tu zumo... [The witch looks at your juice]	-P1: A ver, ¿cómo se decía “se despierta”? [Let see, how do you say ‘wakes up’]
P1: Entonces, pon “su” en español porque hemos dicho que no lo sabíamos... [Then, write “su” in Spanish because we have said that we did not know it...]	-P2: Get up. -P1: Sí, get up. No, no...Wakes up! (se despierta), get up es se levanta... [Yes, get up. No, no...Wakes up! (wakes up), get up is gets up...]
P2: Su juice.	

After the first reading and segmentation of the data into LREs and their resolutions, we engaged in a process of further refinement of the coding categories (see Figure 4). During this transversal analysis, two further categories emerged from the data (see Section III. 5.3 Table 11). These included unreported problems and the absence of a problem in the input. Neither of these two categories could have been identified in the first round of data analysis, which focused exclusively on the LREs in the learners’ collaborative dialogues.

II) Problem solving procedures (type of search)

Having coded the outcome of the LREs, we also attempted to describe the search procedures our participants used in their attempts to solve the problems they noticed in their written output. To do so, we followed García Hernández, Roca de Larios and Coyle (2017) who identified the types of problem-solving searches engaged in by young EFL learners when writing in the L2 before and after receiving reformulated feedback. From their typology, we identified four procedures used by the children in this study: translation, lexical search, morphological search and spelling search, which are defined and illustrated in Table 6 below. As mentioned before (see section III.5.1), the children's search procedures were identified individually by the researcher and both supervisors from the transcription protocols and then confirmed by consensus.

Table 6

Problem solving procedures (type of search)

PROBLEM-SOLVING PROCEDURES (PSP)		
PROCEDURES	DESCRIPTION	EXAMPLE
Translation	Translating a problematic lexical item or a structure from L1 to L2.	<p>P1: A ver, érase una vez un científico...[Let's see, Once upon a time a scientist] Once upon a time a scientific [They write it] P2: que hace... [that he does...] P1: Como hacer los deberes, do my homework, entonces sería does [They write it]. Does a...¿mezcla? [Like do homework, do my homework, then it would be "does", does a ...mixture?] P2: a potion (They write it)</p>
Lexical search	Suggesting lexical alternatives to fill a gap or linguistic problem and weighing them up in a more or less explicit way.	<p>P2: ¿Luego o después, más tarde, dentro de un rato? [Later, after that, later on, in a little while?] P1: Espera, entonces...Nos haría falta poner "entonces"...No, podemos poner "after" que es después, creo que es después. P2: Sí. After... [Wait, then... We have to put "then"... No, we can put "after" that means later on, I think so... Yes, after...] P1: The witch... P1: After, the witch... (They write it).</p>
Morphological search	Suggesting morphological alternatives both in the L1 and the L2 in order to fill a gap or linguistic problem and weighing them up in a more or less explicit way.	<p>P2: Está cenando, ¿Cómo se escribía? [She is having dinner, How can we write it?] P1: ¿Have? P2: Have, have dinner... P1: No, espera, espera... [No, wait, wait...] P2: Está cenando o come... [She is having dinner or she has lunch] P2: Haves...¿Haves? (They write it). P1: Dinner (They write it).</p>

Spelling search	Suggesting spelling alternatives both in the L1 and the L2 to fill a gap or linguistic problem and weighing them up in a more or less explicit way.	P2: And dog is (They write it) atacar...¿era con dos “t”? [Attack, was with two “t”?] P1: Sí, y también con “c” antes de la “k”, attack a cat. [Yes, and also with a “c” before the “k”, attack a cat]
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III.5.1.2. Stage 2: Comparison stage

At stage 2, the children's written notes and the transcriptions of the pair dialogues when comparing their original texts with the model were examined in order to describe how the children located their attentional processes during the feedback comparison task. In the feedback comparison stage, noticing was operationalized not only as any language problems the children spoke about while analysing the model, but also, following Hanaoka (2007), as any problematic features they underlined or wrote down on the noticing sheets they were provided with.

In coding stage 2 data, Qi and Lapkin (2001) expanded the definition of LREs to include differences in the feedback that learners noticed and provided a reason for (substantive noticing), or differences that were noticed but without giving a reason (p. 287). Elaborating further on learners' thought processes during feedback analysis, Sachs and Polio (2007) produced a descriptive classification of different levels of awareness based on the verbal comments made by learners in relation to noticed errors. These included categories that described the linguistic focus of learners' attention (misspelling, oversight, use of new and old lexical items), as well as others that accounted for how learners actively processed the feedback. These categories ranged from simple observable actions (reading feedback aloud, mentioning with emphasis, failure to provide a reason) to more complex attempts to analyse what they had noticed (using metalanguage without a reason, providing an incorrect reason or reasoning successfully). Using this classification as a point of departure, we attempted to distinguish different types of noticing manifested in the children's collaborative talk. A total of four different strategies used by all the pairs were identified in the data. These were as follows: (i) spotting the difference, (ii) translation, (iii) filling the hole and (iv) metalinguistic reasoning. The strategies were data-driven categories, which emerged from careful and reiterative analysis of the children's collaborative dialogue protocols. They are defined and exemplified in Table 8 below. We also recorded instances when there was no evidence of noticing. This occurred when the children *did not explicitly comment* on a linguistic feature in the model even though it formed part of a clause that they were discussing for a different reason, or it formed part of a whole sentence that they underlined or made a note of.

Furthermore, given the acknowledged importance of the construct of comprehended input in Gass's (1997) model of input processing, the children's discussions were also coded according to the degree of comprehension they explicitly showed when analysing the feedback (see Table 7 for definitions and examples). It was assumed that feedback that was not comprehended by the learners was less likely to be recalled and incorporated in their revised texts. Although there was no direct connection between the degree of comprehension shown by the children and their noticing strategies, there was an implicit relationship at the level of awareness (see Figure 1 in the Literature Review, section II.1.1.4). Comprehended input generally only occurred with metalinguistic reasoning, which involved higher levels of awareness on the part of the learners, in accordance with the notion of substantive noticing (Qi & Lapkin, 2001). Partially comprehended input was generally a result of translation and filling the hole strategies, either separately or in combination, which showed some limited semantic awareness. Spot the difference involved the superficial detection of surface similarities and differences between the two texts without further discussion, and thus normally occurred without any explicit evidence of having understood the input other than reading aloud or naming a feature or portion of the model.

Table 7

Degrees of comprehension shown by the children during input processing

LEVEL	DEFINITION	EXAMPLES
Comprehended input (CI)	Children show syntactic and semantic understanding of the input.	P1: She drinks, ella bebe... [She drinks...] P2: Y nosotras escribimos 'she drink'[And we wrote 'she drink'] P1: Se nos olvidó añadir la -s de tercera persona...[We forgot to add the 3rd person -s]
Partially comprehended input (PCI)	Children do not show full understanding of the input. They may understand the meaning but not the form.	P2: The witch is having dinner in her castle. La bruja cena en el castillo. [The witch has dinner in the castle] P1: No lo tenemos. [We have not got it]
No evidence of comprehension (NEC)	It is impossible to tell whether children understand the input as they only mention and/or underline it without further comment.	P1: Then, no lo pusimos. [Then, we did not put it.] P2: No.
Non-comprehended input (NCI)	Explicit evidence that children do not understand the input or that there is a misunderstanding	P1: Suddenly, the cat...El gato se llama suddenly? [The cat is called suddenly?]

Table 8

Noticing strategies

Noticing strategies:				
	Definition	Children's text	Model	Children's dialogues
Spot the differences	Noticing by identifying a linguistic aspect (lexis, form or clause) in the model that differs or coincides with the original text, but without further analysis or discussion.	No related output	<i>She has an idea and uses her magic with the cat.</i>	P2: She has an idea and uses her magic with the cat (reading). P1: Nosotras no hemos puesto nada de eso. [We did not put anything about that.]
Translation	Noticing by translating a linguistic feature (lexis, form or clause) from the model into L1.	No related output	<i>At night</i>	P2: At night... Night, significa noche, ¿no? [Night means night, no?] P1: Por la noche. [At night] P2: Por la noche, [At night]
Filling the hole	Noticing by finding the solution to a hole produced while writing the original text (lexis, form or clause).	<i>Su juice</i>	<i>Her juice</i>	P1: No hemos puesto "her"... ¡Eso era lo que estábamos buscando, su...! [We did not put "her"... That was what we were looking for! Her...] P2: Nosotras hemos puesto "su" y ellos han puesto "her". [We put "su" and they put "her"]
Metalinguistic reasoning	Noticing by reasoning about the language in the model and in their original text (lexis, form or clause).	<i>He drink</i>	<i>He drinks</i>	P2: He drinks, eso lo escribimos. [We wrote it.] P1: No, ellos han puesto "drinks" y nosotras hemos puesto "drink", se nos ha olvidado poner la "s" de tercera persona. [No, they put "drinks" and we put "drink", we forgot the -s third person]

III.5.1.3. Stage 3: Rewriting stage

At stage 3, the data were coded in the same way as in Stage 1. Each resulting protocol was segmented into episodes, and each episode was coded for (i) the linguistic aspects attended to (lexis, form or discourse), (ii) the procedures used by the participants to try to solve the problems they posed to themselves and (iii) the resolution of the episode (solved/unsolved).

III.5.2. Analysis of the written output

The children's collaboratively written texts, in both cycles were analysed following different procedures. In order to identify potential development in the degree of linguistic acceptability and comprehensibility of the children's written output from their original to their revised texts in both cycles, an adapted version of Torras's (2005) coding scheme for analyzing the written output of child EFL learners was applied to the data. These categories were also applied by Coyle and Roca de Larios (2014) to the written output of young EFL learners and proved useful for distinguishing differences between treatment groups and proficiency levels. The pairs' texts were coded into clausal or subclausal linguistic units according to their degree of grammaticality. Three units were identified: pre-clause, proto-clause, and clause, as defined and exemplified in Table 9. In order to check for progress in the children's writing, the number of total units for each clause type was computed and compared in their original and revised texts in both cycles, both within and across groups.

Table 9

Type of clausal units

TYPE	DEFINITION	EXAMPLES
Clause (CLA)	Grammatically accurate unit of language, which may present a slight inaccuracy in spelling, lexis, grammar or concordance.	<i>“The witch live in the castle”</i> <i>“The scientific turns into a cat!”</i>
Proto-clause (PRO)	Linguistic unit in which the children’s meaning intention is clear but which contains grammatical inaccuracies or gaps in the clausal unit.	<i>“The scientific it’s crazy.”</i> <i>“After, the witch look su sandwich”</i>
Pre-clause (PRE)	Grammatically incorrect unit of language consisting of fragmented or distorted strings of words, at times incomplete, in which the meaning intention is not always apparent.	<i>“Hace magic and cat”</i> <i>“Entonces lo convierte in bat”</i>

Finally, in order to establish a more global comparison of the accuracy of the children’s original and revised texts, as did earlier studies exploring the effectiveness of written CF (e.g., Chandler, 2003; Izumi, 2012; Truscott & Hsu, 2008; Van Beuningen, 2011), an error ratio was used to measure overall accuracy: [number of linguistic errors/total number of words] × 10. A 10-word ratio rather than the more common 100-word ratio was used because pupils’ texts were relatively short (i.e., less than 100 words). Error ratios in both texts were calculated and compared as shown in Table 10 below. The total number of words written by the children was also considered, following Torras, Navés, Celaya and Pérez Vidal (2006) to provide an idea of the children’s fluency in writing. It should be pointed out that these holistic measures were intended as a complement to the qualitative analysis of the children’s written output, in order to provide a more comprehensive picture of the development of their language output over time.

Table 10

Example of error ratios

ERROR RATIOS	
Original text	Revised text
<p><i>Once upon a time a one scientific does a potion. They are a dog sleeping. The scientific drink a potion, the scientific it's crazy. The head scientific bumm, bumm! The dog gets up. The scientific turns into a cat! The dog look angry a cat. The dog jump the cat.</i></p>	<p><i>One day, the scientist is in his laboratory. His dog[^] sleeping on the table. The scientist drinks the new potion. The scientist is crazy. Suddenly, the scientist turns into a cat. The dog wakes up, he looks angrily a cat. Finally, the dog attacks the cat.</i></p>
Pair 1, teaching group (cycle 2)	Pair 1, teaching group (cycle 2)
N° words: 53	N° words: 49
N° errors: 13	N° errors: 2
Error ratio: $(13/53) \times 10 = 2,4$ [Errors/n° words x10]	Error ratio: $(2/49) \times 10 = 0,4$ [Errors/n° words x10]
<p><i>Once upon a time a (1one) 2 scientific-scientist does a potion. 3 They are There is a dog sleeping. The 4 scientific-scientist 5 drink drinks- a potion, the 6 eientifie scientist 7 #'s is crazy. The 8 head-scientifie scientist's head 9 bumm, bumm! explodes! The dog gets up. The 10.scientifie turns into a cat! The dog 11/12 look looks at the angry a cat. The dog 13 jump jumps over the cat.</i></p>	

III.5.3. Analysis across stages of processes and products

III.5.3. 1. Identifying the Trajectories

The next phase of the data analysis was carried out transversally across the three stages of the multi-stage task in both cycles (see Figure 4). The analysis involved attempting to establish connections between (i) each problematic LRE identified in the pairs' dialogues at stage 1; (ii) the potential solutions or alternatives offered by the model text when available; (iii) the children's noticing (or not) of these solutions at stage 2 and, (iv) the changes made to their revised texts at stage 3 as a result of previous feedback processing, and (v) the impact of those changes in terms of language development. In order to do so, each problem identified (or not) by the children was carefully traced from its origin in stage

1 through the feedback comparison stage and into their final written output. This was accomplished by engaging in a combined process-product analysis within each of the six frames of the picture story prompt. Taking each picture as a point of reference was useful as it enabled associations to be made frame by frame between the children's problem-solving procedures, as exemplified in their collaborative dialogues, their initial written output, the corresponding feedback and the final written product. As a result, a number of data-driven categories were established to describe the whole range of possible options available to the children at the different stages of the writing task (see Table 11). Thus, **any** of the options from the stage 1 column (problems) could be combined horizontally with **any** of the possibilities at stage 2 (model and noticing processes) and again with **any** of the options available in the stage 3 column (rewriting).

The coding scheme presented below (see Table 11 and Figure 4) crystalized in a series of developmental paths or trajectories that will be presented in the Results section (see Research question 1). In order to be counted as a Trajectory, the same sequential pattern had to occur at least twice in the same or different pairs.

Table 11

Coding categories across the three stages of the writing task

Initial writing Stage 1 Problems	Feedback comparison Stage 2 Model	Noticing	Rewriting Stage 3 Outcome
<i>Not applicable</i> – No initial written output	<i>Not applicable</i> – Unsolvable	<i>Not applicable</i> – Not available for noticing	<i>Not incorporated</i> Solutions or alternatives from the model are not incorporated
<i>Unsolved</i> LRE is incorrectly solved	<i>Solvable</i> Solution provided for the problem	<i>Noticed</i> Solution to a problem is noticed	<i>Partially incorporated</i> Solutions or alternatives from the model are partially incorporated, either incorrectly or with slight inaccuracies.
<i>Unreported</i> Written output is not considered problematic even when inaccurate	<i>Partially solvable</i> Partial solution provided for the problem	<i>Partially noticed</i> Part of a solution to a problem is noticed	<i>Incorporated</i> Solutions or alternatives from the model are incorporated correctly
<i>Solved</i> LRE is correctly solved	<i>Alternative</i> New ideas and content included	<i>New input noticed</i> New language or content is noticed	<i>Original output deleted</i> Problematic element from stage 1 is deleted <i>Original output repeated</i> Original stage 1 output is repeated <i>Solved without the model</i> Solution to a problem is found without using the model (eg recalling EFL classes, class textbook) <i>Partially solved without the model</i> Partial solution found without the model <i>Addition of new content</i> New ideational content is included in stage 3

III.5.3. 2. Identifying the language learning potential of the trajectories

Having identified a range of interrelated trajectories used by the learners during the writing, feedback analysis and rewriting process, and in line with the view that the nature of the linguistic processing engaged in during these activities can impact on learning outcomes (Manchón, 2011a), we then attempted to classify the trajectories according to their language learning potential. For coding purposes, two parameters were taken into consideration: i) the degree of noticing (no evidence of noticing, partially noticed or fully noticed) learners engaged in at the second stage of the multi-stage task; and ii) the impact of this noticing on their revised texts in stage 3. The impact was described in terms of written outcomes including the incorporations learners made from the feedback (partial or full), together with deletions or repetitions of their original output or the addition of new content (see Table 11). This gave us a general idea of more and less useful trajectories.

However, taking into consideration recommendations of how language development might be operationalized (Norris & Ortega, 2003), and following Sachs and Polio's (2007) suggestion that acquisition "might refer to various sorts of gradual and nonlinear changes in both linguistic and metalinguistic behaviour" (p 75), it was deemed necessary to further refine the results related to the stage 3 written outcomes (no incorporation, partial or full incorporations, deletions, repetitions, solutions found without using the model, addition of new content). Consequently, a more finely grained analysis was carried out to account for all the linguistic changes, including undesirable ones, associated with each of these outcomes. Taking as our point of departure the clausal units described above (see Table 9), all the changes detected in the clausal units from the original to the revised texts in both cycles were coded as either (i) improvements, (ii) partial improvements or (iii) drawbacks. In this sense, an outcome identified as incorporation from the feedback could be further coded as either an improvement or a partial improvement depending on the degree of accuracy it involved. Definitions and examples of these categories are provided in Table 12.

Table 12

Changes in the children's revised texts

Types of change	Stage 3 Outcome	Original text	Revised text	Description
Improvement Changes that improve the accuracy of the clausal unit. These included the deletion of errors and output in the L1	Incorporation	<i>He is sleep</i>	<i>He is sleeping</i>	The verb participle has been corrected to -ing
	Deletion	<i>They are a black night in Transylvania</i>	<i>^A black night in a spookie castle.</i>	Error deletion 'they are'
		<i>The person is ahogando [drowning]</i>	-	L1 deletion
	Solved without the model	<i>The dog dead a cat.</i>	<i>The cat is dead</i>	Correct use of the be copula
	Addition of new content	-	<i>The witch's happy</i>	New and correct clausal addition
Partial improvement: A change that improves the original clausal unit but which is not fully correct.	Partial Incorporation	<i>The witch eat</i>	<i>The witch have dinner</i>	Closer to 'is having dinner' in the model
	Incorporation	<i>Dog the sleep</i>	<i>Dog is the sleeping</i>	The be auxiliary and present continuous verb inflection has been incorporated
	Partially solved without the model	<i>The bat ^ sleeping in the techo. [ceiling]</i>	<i>There is one bat slipping in the ciling</i>	L1 word replaced by an L2 word not from the model but with a spelling mistake
	Addition of new content	-	<i>Whit look a TV</i>	New but incorrect clausal addition
	Drawback: A change that diminishes the quality of the clausal unit. These comprised modifications which downgraded the original text	Deletion	<i>She eats</i>	<i>She eat</i>
<i>The dog observes the cat</i>			-	Ideational content is lost
Addition of new content		-	<i>Mientras [while]cat eat sanwich</i>	L1 addition

In order to illustrate the combined process-product analysis of the data using the categories outlined in Figure 4, an excerpt is presented in Table 13 and explained below using data from Pair 1, cycle 2, in the teaching group (see Appendix 18 for a complete example).

Table 13

Analysis of processes and products across stages

Written product from Stage 1 to Stage 3 (frame 2)	
PROTOCLAUSE 2 (<i>The scientist drink a potion</i>)	
CLAUSE 2 (<i>The scientist drinks the new potion</i>)	
Pair 1, cycle 2, experimental group, (HL)	
Improvements: -Drink → drinks -A potion → the new potion	Partial improvements: Drawbacks:
Stage 1	
Not reported as a problem <i>drink</i>	
Stage 2	
Solution noticed in the model Drinks → translation, metalinguistic reasoning (Form, CI)	P2: He drinks, eso sí lo hemos puesto. The whole potion. [Yes, we put it] P1: El bebe la poción, ellos han puesto drinks y nosotras hemos puesto drink, se nos ha olvidado añadir la “s” de tercera persona. [He drinks the potion, they put drinks and we put drink, we forgot to añadir the –s 3 rd person]
Stage 3 <i>drinks</i> (incorporated)	
Stage 1	
L-LRE(mezcla)	P1: ¿mezcla? [mix?] P2: a potion
Translation solved <i>Potion</i>	
Stage 2	
Noticed The whole potion Filling the hole Potion (Lexis, PCI), The whole, NEC	P2: The whole potion. P1: Bueno, potion sí, lo tenemos bien. [Well, potion yes, we have it right]
Stage 3 Direct production <i>the new potion</i> Partially incorporated	

For the transversal analysis across stages, charts like the one above (Table 13) were used to record and analyse each product the participants produced, together with the problem-solving processes they engaged in while composing and analysing the model text. We set as driving forces of this analysis the clausal units produced by the children. The following

example, (picture frame 2 in cycle 2) illustrates the processes by which the children turned a proto-clause at stage 1 into a clause at stage 3:

- 1) At stage 1, while producing their written story, the learners did not appear to notice that the verb ‘*drink*’ was incorrect in this context (*the scientific drink*), and it was not identified as a problem in their collaborative dialogue (unreported problem).
- 2) However, at stage 2, when comparing their text to the model, they noticed the correct verb form ‘*drinks*’ in the feedback (solvable; noticed), when translating the model into the L1. Having comprehended the input (CI), the pair then engaged in metalinguistic reasoning discussing the omission of the third person ‘s’ of the verb form that they had not included in their original version of the story.
- 3) At stage 3, the pair incorporated this solution into their revised text (incorporation).
- 4) The incorporation that contributed to the clausal transition was identified as a linguistic *improvement*: drink to *drinks*.

Considering the second modification:

- 1) At stage 1, the pair solved a lexical problem (*potion*) by translating the L1 term ‘*mezcla*’ into the L2 (solved problem).
- 2) At stage 2, the children noticed the expression (*the whole potion*) in the model by using the strategy of ‘filling the hole’. Having engaged in a lexical search for this word at stage 1, they now focused selectively on the solution to their original lexical problem (*potion*), which they had no difficulty understanding semantically (PCI). However, they did not show any evidence of having understood the full meaning of the expression (*the whole*) (NEC) (partially noticed).
- 3) At stage 3, they partially incorporated what they had noticed in the model, writing ‘*the new potion*, which was similar to ‘*the whole potion*’ (partial incorporation)
- 4) In considering the impact on their language development, it was noted that although they did not recall the exact expression from model, the pair did maintain idea of adding an adjective to ‘*potion*’. This modification was recorded as an improvement on their original text (improvement).

Following the steps outlined above, the children's collaborative dialogue protocols in all three stages of both writing cycles, together with their written notes at stage 2 and both their original and revised written texts, were carefully examined and coded using the categories previously described. This combined process-product information led to the identification and ranking of the trajectories along a continuum according to whether they were perceived as having more language learning potential (MLLP) or less language learning potential (LLLP) for second language learning. The results are reported in response to Research question 1.

III.5.3. 3. The relationship of the trajectories with MLLP and LLLP to changes in the children's written output

In order to identify how the theoretically driven classification of MLLP and LLLP trajectories matched changes in the children's written output data, the raw frequencies of the clausal unit transitions between the learners' initial stage 1 texts and their revised texts in stage 3, were computed. Three types of transitions were considered:

- i. Transitions between *different* clausal units (Pre-clause →Proto-clause, Proto-clause→Clause , Pre-clause →Clause)
- ii. Transitions between *similar* clausal units (Pre-clause→Pre-clause, Proto-clause→Proto-clause, Clause→Clause)
- iii. Transitions involving the *addition* (X→Pre-clause, X→Proto-clause, X→Clause) or *deletion* of clausal units (Pre-clause→X, Proto-clause→X, Clause →X).

Within each of the three transitional patterns, the trajectories the pairs had used involving what we considered to be MLLP and LLLP were identified in connection with the improvements, partial improvements and drawbacks they had articulated across groups, proficiency levels and cycles (see Table 12).

Table 14 below exemplifies the micro analytic procedure used to code the entire data set for all the pairs (See Appendix 19 for a complete example), using an example from the data of the high proficiency pairs in the teaching group in cycle 1. Specifically the process was as follows. Each numbered trajectory (T), previously identified as either belonging to those with MLLP or LLLP, was associated with its corresponding numbered written

product (P) in the children’s texts and the language-related episode (L-LRE) involved. The outcome of the trajectory led necessarily to one of the three clausal transition types outlined above (e.g. Pre-clause → Clause), which, in turn, involved a full or partial improvement or a drawback in the final written output (IM/DR/PIM). The total number of trajectories of each type was then tallied together with the ratio of improvements, etc. for each pair in both writing cycles.

Table 14

Example of coding of MLLP and LLLP trajectories and changes in written output across clausal transitions

Teaching Group High Level learners Cycle 1	
MLLPs	LLLPs
Improvements/Drawbacks/Partial improvements/	Improvements/Drawbacks/Partial improvements
<p>Pair 1</p> <ul style="list-style-type: none"> • 2 x T12, P6, PRE→ CLA: 2/0/0 (Entonces→Then→incorporation (L-LRE) Su juice → her juice (L-LRE). • T3, T8a, P13, PRE→ PRO: 1/1/0 (wite→white (L-LRE) (se convierte → become (L-LRE) <p>Pair 2</p> <ul style="list-style-type: none"> • T22, P15, PRO→CLA, 0/1/1 Bat-cat→ wite bat (L-LRE, phrase) 	<p>Pair 1</p> <ul style="list-style-type: none"> • T17, P4, PRO→ CLA: 0/0/1 (Of the witch→ drawback (L-LRE) Avoid the idea of possession (missed opportunity from the model “the witch’s orange juice”) (L-LRE) <p>Pair 2</p> <ul style="list-style-type: none"> • T10, P10, PRO→CLA, 0/0/1 (Before look to → (deleted) The cat look the witch partial improvement (D-LRE)
<p>Total trajectories: 5</p> <p>Ratio IM/ DR/PIM: 3/0/2</p>	<p>Total trajectories: 2</p> <p>Ratio IM/ DR/PIM: 0/1/1</p>

Code Pre=pre-clause; Pro=Proto-clause; Cla=Clause; Pre-Pre= transition from Pre-clause in Stage 1 to Pre-clause in Stage 3; Pro-Pro: transition from Proto-clause in Stage 1 to Proto-clause in Stage 3; Cla-Cla=transition from clause in Stage 1 to Proto-clause in Stage 3 MLLP=trajectories involving More Language Learning Potential; LLLP= trajectories involving Less Language Learning Potential. T= trajectory; 3 = number of trajectory P= Product; 3= number of written product; IM= improvement; DR= drawback; PIM= partial improvements; L-LRE= Lexical language-related episode; D-LRE= discourse language-related episode

This detailed analysis of the data facilitated further computation of:

- (i) The most frequently used trajectories with more and less language learning potential across groups and proficiency levels (research question 1);
- (ii) The types and frequencies of trajectories used in the three transitional patterns between clausal units (research question 2),
- (iii) The frequencies of the improvements, partial improvements and drawbacks in the children's written texts in relation to trajectories (research question 2), and
- (iv) The linguistic focus of the trajectories for each pair (research question 3).

III.5.3. 4. The linguistic features of the learners' texts and their developing second language competence

Research question 3 focused on identifying any signs of progress in the children's second language development. Having calculated the text length and error ratios for the texts produced by each pair, as well as analysing the overall clausal unit changes in the learners' texts across groups and cycles and their corresponding improvements, partial improvements and deletions (see Table 12 above for definitions), the children's written texts were then re-examined carefully to account for any changes in lexis, form and discourse. The example in Table 15 from high level pair 1 from the non-teaching group in cycle 1 illustrates how this was carried out (see Appendix 20 for a complete example).

- Firstly, the clausal units in the original and in the revised text were compared, accounting for any changes made.
- Then, each clausal unit change was classified according to its repercussion in the text as an improvement, a partial improvement or a drawback.
- Next, these changes were further categorized in relation to the type of linguistic aspects they dealt with; lexis, form or discourse.
- The changes were also associated to their relationship or not with the model; changes matching the model (MM), partially matching the model (PMM) or not matching the model (NMM). This enabled us to obtain a detailed picture of the linguistic characteristics of the written texts across groups and cycles and thus account for any signs of progress.

Table 15

Example of analysis of the original and revised texts

Clause in OT (stage 1)	Clause in revised text (stage 3)	CHANGES		
		Improvements	Partial improvements	Drawbacks
The witch have dinner ^toast and drink ^milk.	In the night the witch has dinner ^sandwich and ^glass of milk.	1) Have dinner → Has dinner (FORM, verb Form. NMM)	1) In the night → Incorporation (LEXIS, PMM). Close to ‘at night’ in the model.	1) Drink → deletion (LEXIS, NMM). Missed opportunity from the model ‘drinks’.
PROTO-CLAUSE 1	PROTO-CLAUSE 1	2) Toast → sandwich (LEXIS, MM)	2) Milk → ^ glass of milk (LEXIS, phrase. NMM)	

Code: MM= match the model, PMM= partially match the model NMM=not match the model.

III.5.3. 5. Description of morphosyntactic features of the L2

In order to further account for potential development in the children’s interlanguage, we decided to focus on their written production of a number of basic morphosyntactic features (Table 16).

Table 16

Morphosyntactic features identified in the children’s writing

Morpheme	Illustration
-ing morpheme	<i>The bat <u>sleeping</u> in the ceiling</i>
Be auxiliary	<i>The cat <u>is</u> drinking</i>
Definite article ‘the’	<i><u>The</u> witch eating sandwich</i>
Indefinite article ‘a/an’	<i>he looks angrily <u>a</u> cat</i>
3 rd person ‘s’	<i>The dog wakes <u>s</u> up</i>

The grammatical features targeted in our analysis were selected from the picture story texts, which created obligatory contexts for the use of certain morphemes (Muñoz, 2006), especially articles and the third person-s, and since it was likely that the children would describe the events in the present continuous, they would also need to use the –ing

morpheme and the be auxiliary. These features coincide with some of the grammatical functors typically included in studies of morpheme accuracy orders (eg Bailey, Madden & Krashen 1974; Dulay & Burt, 1973, 1974), which report a sequential pattern in the acquisition of specific morphemes for both younger and older L2 learners in naturalistic settings (see Goldschneider & DeKeyser, 2001). Although the results obtained with learners in instructed settings have been mixed and inconclusive (Muñoz, 2006), and the studies have been subject to conceptual and methodological criticisms regarding the equation of accuracy with acquisition or the failure of the morpheme order to hold across language modalities (Larsen Freeman, 1975, 1976), the fact remains that these features have long been regarded as a benchmark for measuring second language acquisition. However, it is important to clarify that the aim of our analysis was not to check for evidence of a natural acquisition order in the children's written output, but simply to establish whether the opportunity to engage in writing and feedback analysis, in combination with instruction for some of the learners, might have an impact on the children's L2 development. The observation of these commonly studied morphosyntactic features, together with other linguistic forms for which there were no obligatory contexts (possessive adjectives, be copula, personal pronouns) was one of the ways in which the children's L2 development was operationalized. As a result, we were interested in reporting when a feature appeared in the children's output and how accurately it was used. This meant identifying the initial appearance of each of these L2 features and then tracing their use across the children's four written texts in stages 1 and 3 of both cycles.

Indication of progress in the children's second language development was thus associated with the accurate use of morphosyntactic features in the obligatory contexts (Brown, 1973) in which they were required across the different written texts. The notion of obligatory contexts is associated with the above mentioned morpheme studies. The procedure adopted by the majority of these studies to determine acquisition orders entailed the suppliance of grammatical morphemes in contexts in which they were compulsory. As described by Brown (1973, p 255):

“...grammatical morphemes are obligatory in certain contexts, and so one can set an acquisition criterion not simply in terms of output, but in terms of output-where-required. Each obligatory context can be regarded as a kind of test item, which the child passes by supplying the required morpheme or fails by supplying none or one that is not correct.” (Brown, 1973, p 255).

In spite of a number of criticisms directed at this performance measure including the fact that it leaves the functional use of language unaccounted for (Lightbown, 1983), fails to consider the over-use of morphemes in non-obligatory contexts (Pica, 1983) or focuses on type rather than token (Long & Sato, 1984), it continues to be used in studies which attempt to shed some light on second language development. Following Muñoz (2006), who used the suppliance in obligatory contexts (SOC) measure to describe the production of a group of young Spanish/Catalan learners on an oral picture description task, and Bastarrechea and García Mayo (2014), who compared morpheme production in the obligatory contexts of a dictogloss task by learners in a content and language integrated learning (CLIL) context and others in a non-CLIL context, we decided to implement the measure as an indication of potential development in the children's written output. As in both of these studies, the use of grammatical morphemes in contexts where they were not required (i.e., oversuppliance) was not considered.

In order to calculate the SOC for the writing tasks, we identified all the instances in the children's texts in which the accurate use of a particular target feature was obligatory. Following Dulay and Burt (1974) and Andersen (1978), a minimum of three obligatory contexts was required to compute each morpheme. This meant counting the number of times a particular language form was used by each pair, and then tallying the number of correctly and incorrectly supplied morphemes. SOC analyses were conducted according to guidelines from Brown (1973), Dulay and Burt, (1974) and Pica (1983). This involved the use of weighted scores: two points when a pair supplied the correct L2 feature, one point when an incorrect feature was supplied and no points when a feature was not supplied. The scores of all the contexts for a specific feature were added and the sum was divided by the product of twice the total number of contexts requiring suppliance of the morpheme.

The SOC was calculated using the following formula (Pica, 1983, p. 474.):

$$\text{SOC} = \frac{\text{n correct suppliance in obligatory context} \times 2 + \text{n misformations in obligatory context} \times 1}{\text{Total obligatory contexts} \times 2}$$

The resulting percentage was multiplied by 100 to yield a whole number. Each obligatory context for a morpheme was scored according to the following schema (from Dulay & Burt, 1973, p.254):

- No morpheme supplied = 0 [He is sleep(-)
- Misformed morpheme supplied = 1 [He is sleepeng]
- Correct morpheme supplied = 2 [He is sleeping]

We adopted Brown's (1973) decision to use 90% correct suppliance in obligatory contexts as an indication of the consistently accurate use of a particular morpheme, and therefore a sign that it had been acquired. An example of how this was calculated is presented below using the revised text written in cycle 1 by a low proficiency pair from the teaching group.

Table 17
Example of computation of SOC

She (A witch) is (having) dinner (a) sandwich and (an) orange juice and (a) cat is observes (ing) (the) orange juice, (a) bat is sleeping. He (The cat) is drink (ing) orange juice. (The) Witch is (eating the) sandwich. She observes (the) orange juice and (the) cat food (eats the) sandwich. (She) Witch observes[^] (the) sandwich and she there^A (has an) idea. She[^] (uses her) magic and (with the) cat and (the) bat get (gets) up. She finishes (the) magic and she finishes (the) sandwich and (the) orange juice and (the) bat love (loves the) bat.

LL pair 4 TG, revised text, cycle 1

Ing morpheme

In cycle 1, LL pair 4 from the TG had a total of 5 obligatory contexts for the -ing morpheme in their revised text (is having dinner, is observing, is sleeping, is drinking, is eating). However, they only included one correctly (is sleeping) and another incorrectly (is observes). Therefore, when applying the previous formula [(1 x 2 + 1 x 1 / 5 x

$2=3/10=0.3$ ($0.3 \times 100=30\%$)] we obtain an accuracy percentage of SOC for the –ing morpheme of 30%.

Be auxiliary

The ‘be auxiliary’ also had a total of 5 obligatory contexts in the children’s text (as well as the –ing morpheme) to form the present continuous tense (is having dinner, is observing, is sleeping, is drinking, is eating). This pair provided one correct formation ‘is sleeping’ and 4 left misformed morphemes (is dinner, is observes, is drink, is (eating)). Thus, after calculating the SOC using the formula [$1 \times 2 + 4 \times 1/5 \times 2 = 6/10 = 0.6$ ($\times 100 = 60\%$)], we concluded that this morphosyntactic features was use with an accuracy percentage of 60%.

Definite article:

There were a total of 15 obligatory contexts where children should have used definite articles, however, they did not include any of them in their text, thus their SOC was 0% [$0 \times 2 + 0 \times 1/15 \times 2 = 0/30 = 0$ ($\times 100 = 0\%$)].

Indefinite articles

The same occurred with indefinite articles since there were 12 obligatory contexts in the pair’s text but they did not supply any of them [$0 \times 2 + 0 \times 1/6 \times 2 = 0/12 = 0$ ($\times 100 = 0\%$)].

3rd person –s:

There were a total of 9 obligatory contexts for the use of 3rd person –s in this pair’s text. Four of them were included (she observes orange juice, witch observes sandwich, she finishes magic and she finishes sandwich) and five of them were not [the cat (eats) the sandwich, she tiene^ (has an) idea. She ^ (uses her) magic and (with the) cat and (the) bat get (gets) up and (the) bat love (loves the) bat]. Thus, their SOC percentage was 50% [$4 \times 2 + 0 \times 1/9 \times 2 = 8/18 = 0.44$ ($\times 100 = 44\%$)]

The results of the data analysis for the three research questions are presented below.

Chapter IV:

Results

IV. 1. Results for research question 1

Research Question 1.

- (i) What trajectories do young EFL learners engage in when writing narrative picture stories, analysing feedback in the form of a model text and rewriting their original texts?
- (ii) Can the trajectories deployed by the children be differentiated in terms of their language-learning potential?
- (iii) Is the children's use of trajectories with more and less language-learning potential mediated by instruction and/or proficiency?

The first research question aimed to identify the paths or trajectories followed by young EFL learners as they worked collaboratively on a multi-stage writing and feedback analysis task. Taking the notion of a language-related problem as a starting point, the trajectories account holistically for (i) the children's noticing of and responses to difficulties they encounter when encoding their ideas linguistically in their initial output; (ii) their subsequent awareness or partial awareness of potential solutions to these problems offered by the model texts when available, and (iii) the impact of their noticing processes on their final written output. In doing so, writing and feedback analysis are considered here as interrelated cognitive processes, involving problematic features noticed by the children (Hanaoka, 2006a, 2006b; 2007). These features are thought to act as a priming device for focused or partial noticing of input from the feedback (Gass, 1997), which, in turn, could find its way into the children's revised texts.

IV. 1. 1. Trajectories

A feedback trajectory can be defined, then, as the interrelation of linguistic problem solving, noticing processes and their impact on written output production during writing and feedback processing, involving a range of possibilities at each stage (Figure 5).

- (i) At stage 1, a Trajectory might involve an unsolved problem (a LRE solved incorrectly), a solved problem (a LRE solved correctly), an unreported problem (when there is no evidence in the children's discussions that they consider their output problematic even when it is inaccurate). There are also trajectories in which there is no initial output in stage 1.

- (ii) In relation to the problem in hand, the feedback at stage 2 may offer a solution (a problem at stage 1 is solvable in the model), a partial solution (a problem at stage 1 is partially solvable in the model), an alternative (new ideas and content are included in the model) or no solution (nothing related to the original problem is present in the model). In response, the children may notice, partially notice (part of the solution is noticed) or not show any explicit evidence of noticing the solution offered by the model. They may, in addition, notice new input in the model. In analyzing the feedback, the children might use one or more noticing strategies such as spot the difference, translation, filling the hole or metalinguistic reasoning (see Method for definitions) at a higher or lower level of comprehension, including non-comprehended input (NCI), no evidence of comprehension (NEC), partially comprehended input (PCI) or fully comprehended input (CI) (see Method for definitions).

- (iii) At stage 3, the problem-solving and noticing processes in the previous stages can lead to the correct incorporation of solutions or alternatives from the model, partial incorporation of solutions or alternatives, or failure to incorporate any features from the model. Solutions or partial solutions to problems without recourse to the model are also contemplated in the trajectories (eg. recalling specific language content taught in their EFL classes or input from the class textbook, etc.). Further outcomes may also include the deletion or repetition of original output or the addition of new language not included in the original text, or the model, in the revised texts.

A total of 24 different trajectories with their corresponding subtype (a and b) were identified across the three stages of the two writing cycles (see Table 18 below).

Table 18
 Combined process-product trajectories across stages

TRAJECTORIES OF PROCESSES AND PRODUCTS ACROSS STAGES				
	STAGE 1	STAGE 2		STAGE 3
	Process	Solution	Noticing	Product
1	-	-	New input	Not incorporated
2	-	-	New input	Partially Incorporated
3	-	-	New input	Incorporated
4a	Unsolved Problem	Solvable	No evidence of noticing	Original output deleted
4b	Unsolved Problem	Solvable	No evidence of noticing	Original output repeated
5a	Unsolved Problem	Unsolvable	-	Original output deleted
5b	Unsolved Problem	Unsolvable	-	Original output repeated
6a	Unsolved Problem	Unsolvable	-	Partially solved without the model
6b	Unsolved Problem	Unsolvable	-	Solved without the model
7a	Unsolved Problem	Partially solvable	Noticed	Original output deleted
7b	Unsolved Problem	Partially solvable	Noticed	Original output repeated
8	Unsolved Problem	Partially solvable	Noticed	Partially incorporated
9	Unsolved Problem	Partially solvable	Noticed	Incorporated
10	Unsolved Problem	Solvable	Noticed	Original output repeated
11	Unsolved Problem	Solvable	Partially noticed	Partially incorporated
12	Unsolved Problem	Solvable	Noticed	Incorporated
13	Unsolved Problem	Solvable	Noticed	Original output deleted
14a	Unreported problem	Unsolvable	-	Original output deleted
14b	Unreported problem	Unsolvable	-	Original output repeated
15a	Unreported problem	Solvable	No evidence of noticing	Original output repeated
15b	Unreported problem	Solvable	No evidence of noticing	Incorporated
16	Unreported problem	Solvable	Noticed	Not incorporated
17	Unreported problem	Solvable	Partially noticed	Original output deleted
18a	Unreported problem	Solvable	Noticed	Partially incorporated
18b	Unreported problem	Solvable	Noticed	Incorporated
19	Solved problem	Unsolvable	-	Original output repeated
20a	Solved problem	Alternative	Noticed	Partially incorporated
20b	Solved problem	Alternative	Noticed	Incorporated
21	Solved problem	Solvable	Noticed	Original output repeated
22	Solved problem	Alternative	Noticed	Original output repeated
23	Solved problem	-	-	Original output deleted
24	-	-	-	Addition of new content

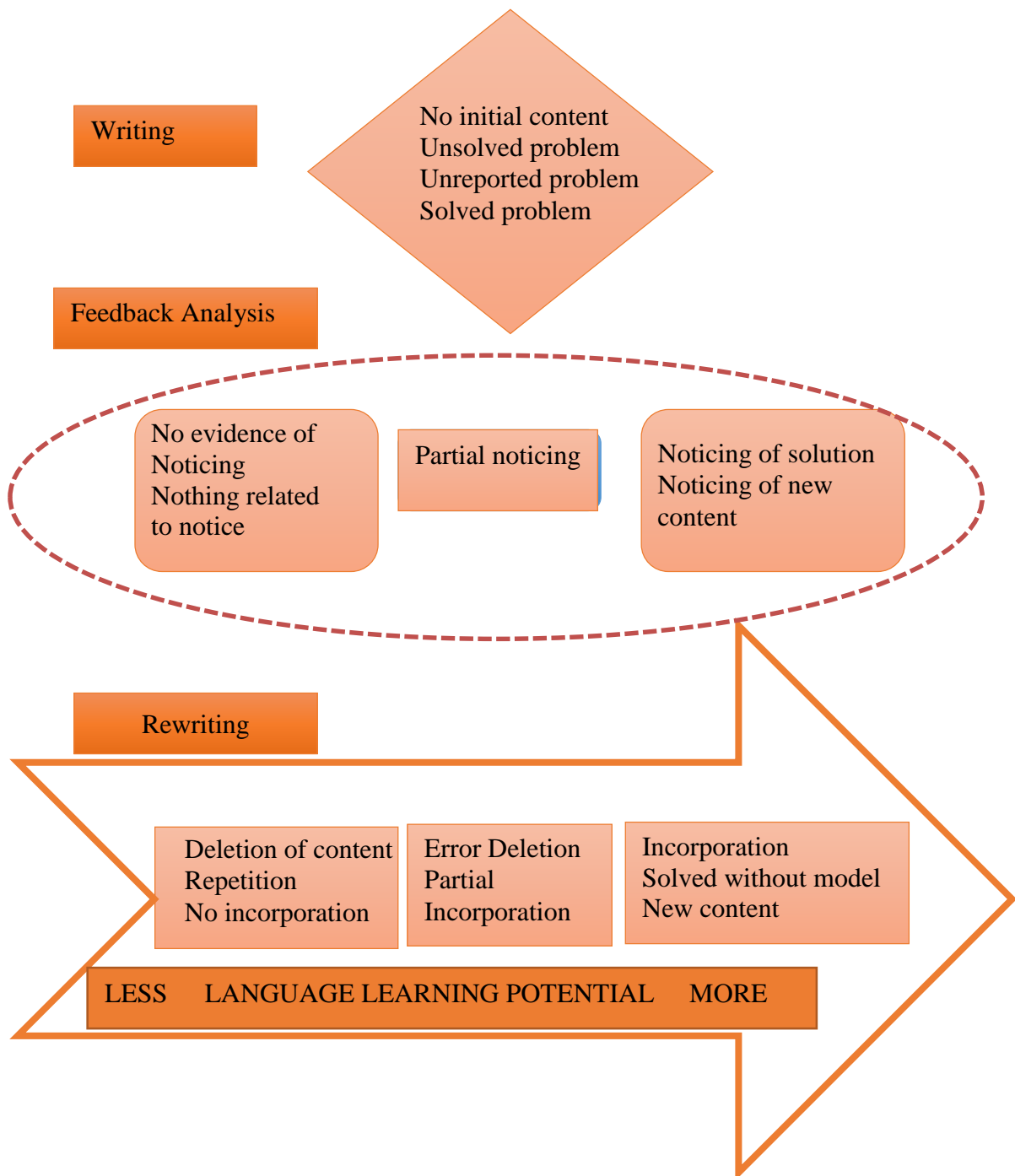


Figure 5. Combinations of different trajectories at each stage of the writing process.

In what follows, we define and illustrate each trajectory with data taken from the collaborative dialogues and written output of different pairs of learners from both groups in each of the two writing cycles. Although some of the following examples may contain combinations of different trajectories, in each case we highlight only one trajectory at a time for reasons of clarification.

The examples of each trajectory set out in the tables below include information on: (a) the number and definition of the trajectory; (b) the children's problem solving procedures at stage 1; (c) the presence (or lack of) a solution or alternative in the model, as well as the children's noticing processes (or lack of) at stage 2; and (d) the written outcome of the previous stages. Each trajectory is then exemplified with output from the pairs' original and revised texts in association with its corresponding frame in the picture-story. The focus of the trajectory is highlighted in bold and in italics.

A summary is also included on the left of the table of the procedures involved at each of the three stages. These include the language-related episode and the problem-solving strategy the children deployed to solve a problem during encoding, together with the solution to the problem (when appropriate) at stages 1 and 3, as well as the noticing strategy used and the extent of the children's comprehension of what they noticed in the model at stage 2. The procedures are illustrated with excerpts from the children's collaborative dialogues from the different stages of the trajectory.

TRAJECTORY 1

Linguistic input in the model, unrelated to the original text, is noticed but not incorporated.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
-	-	New input
		Not incorporated

Written product from Stage 1 to Stage 3 (frame 1)

NO TEXT RELATED TO THE NEW INPUT AT STAGE 1

NO TEXT RELATED TO THE NEW INPUT AT STAGE 3

Pair 3, Cycle 1 (Teaching group, LL)

Stage 1

No output related to the new input noticed in the model

Stage 2

New input:
In the dining room
Noticed by
Spot the Difference
(NEC)

P2: Yo he encontrado otra diferencia: In the dining room (lo subrayan). [I found another difference: in the dining room. They underline it]

Stage 3

Not incorporated

At stage 2 (Cycle 1), when low level pair 3 from the teaching group was asked to compare their text with the model, they noticed new input in the model, specifically the noun phrase “*in the dining room*”, which they had not included in their original text. From their dialogue, it is apparent that noticing was largely superficial and involved simply spotting the differences between the model and their own output. No attempt was made to translate the input or to reflect on it, and the pair showed no evidence of comprehension (NEC) although the phrase was underlined. At stage 3, the new input (in the dining room) was not incorporated into their revised text. In sum, by using Trajectory 1, children notice new input in the model but without retention and incorporation into their revised texts.

TRAJECTORY 2

Linguistic input in the model, unrelated to the original text, is noticed and partially incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
-	-	New input	Partially Incorporated

Written product from Stage 1 to Stage 3 (frame 5)

NO TEXT AT STAGE 1

CLAUSE 1: *The witch magic in the cat.*

Pair 1, Cycle 1 (Non-Teaching group, HL)

Stage 1

No written output related _____
to the new input noticed
in the model

Stage 2

Noticed	P1: She uses her magic with the cat.
New input (Clause)	P2: Esto no lo hemos puesto. [We haven't put this.]
<u>She uses her magic with</u>	P1: No, subráyalo. [No, underline it.]
<u>the cat</u>	
Spot the difference (NEC)	

Stage 3

Direct production	P1: The witch magic in the cat (They write it.).
The witch magic in the	
cat	
Partially incorporated	

At stage 2 (Cycle 1), high level pair 1 from the non-teaching group noticed the clause “*She uses her magic with the cat*”, no showing understanding (NEC) by spotting the differences and underlining it. At stage 1, they had not written anything similar in their original text. At stage 3, they were only able to retain part of the input noticed in the model by writing “*The witch magic in the cat*” without engaging in any further problem solving. To sum up, by using Trajectory 2 children partially retain and incorporate new input from the feedback.

TRAJECTORY 3

Linguistic input in the model, unrelated to the original text, is noticed and incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
-	-	New input	Incorporated

Written product from Stage 1 to Stage 3 (frame 2)

NO TEXT AT STAGE 1

CLAUSE 1: *He is very excited* because he's finished the potion.

Pair 2, Cycle 2 (Teaching group, HL)

Stage 1

No output related to the new input noticed in the model

Stage 2

New input

Clause

He is very excited

Noticed by translation (PCI)

-P2: He is very excited.

-P1: Él está muy excitado. [He is very excited.]

- P2: Esto no lo hemos puesto (Lo subrayan) [We did not put it, they underlined it]

Stage 3

Direct production without a search

Incorporated

P1: *He is very excited* because he's finished the potion.

At stage 2, (Cycle 2), high level pair 2 from the teaching group noticed and underlined the clause “*He is very excited*” using the noticing strategy of translation, showing they had understood the meaning (PCI). At stage 3, this pair retained and incorporated the clause without any further searches. In Trajectory 3, the noticing of new input at stage 2 is incorporated in the written output at stage 3.

TRAJECTORY 4a

An unsolved problem whose solution in the model is unnoticed, is followed by the deletion of the original output.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unsolved Problem	Solvable	No evidence of noticing	Deleted

Written product from Stage 1 to Stage 3 (frame 3)

PRE-CLAUSE 2: *Anna ve it juice.*
 PROTO-CLAUSE 5: *and witch look [^]juice.*

Pair 3, Cycle 1 (Non-Teaching group, LL)

Stage 1

L-LRE (el) [The] Lexical search for “the” unsolved <u><i>it juice</i></u>	P1: El zumo... [The juice...] P2: ¿Pero cómo se escribe el...? It? Puede ser... It juice (lo escriben). Anna ve <u><i>it juice</i></u> ... [But how do you write “the”? It? It might be... It juice]. (They write it.)
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Stage 2

Solvable: <u>The</u> Alternative: <u>Her</u> No evidence of noticing	P1: Witch’s orange... Underlined in the model: the <u>witch’s orange juice</u> P2: Observes... Underlined in the model: she <u>observes</u> her orange juice
--	---

Stage 3

Direct production without a search <u>[^]<i>juice</i></u> (no article) “It” Deleted	P1: <i>and witch look [^]<u>juice</u>.</i> (They write it).
--	--

At stage 1 (Cycle 1), low level pair 3 from the non-teaching group described picture frame 3 as “*Anna ve it juice*” when writing their original text. In their initial attempt to formulate the sentence, the children engaged in a lexical search for the definite article “the”. Unable to solve this problem, they wrote instead “it juice”. In the model text, this same picture frame was represented as “*After that, she observes her orange juice and the cat eats the witch’s sandwich*”, while a previous frame contained the phrase “*the witch’s orange juice*”. Thus, the model offered a solution to this pair’s original problem “the”, and also an alternative in the possessive pronoun “her”. However, neither of the solutions seemed

to be noticed by the children. They did not verbalize, underline or make a note of either of them. Instead, they underlined content words beside the solutions but not the solutions themselves. In the model they underlined: the witch's orange juice and she observes her orange juice. At stage 3, when rewriting their text, this pair did not engage in any searches related to their unsolved stage 1 problem, but wrote directly *and witch look ^ juice*, deleting their original L2 output “*it*”, without solving their problem using the model, despite the presence of two possible solutions.

In sum, in Trajectory 4a an unsolved problem at stage 1 is left unsolved despite the availability of a solution in the feedback, for which there is no evidence of noticing. The original output is eventually deleted in the revised texts.

TRAJECTORY 4b

An unsolved problem whose solution in the model is unnoticed, is followed by the repetition of the original output.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unsolved Problem	Solvable	No evidence of noticing
Written product from Stage 1 to Stage 3 (frame 4) PRE-CLAUSE 3: <u><i>The witch idea.</i></u> PRE-CLAUSE 3: <u><i>The witch idea.</i></u> Pair 3, Cycle 1 (Teaching group, LL)		
<p style="text-align: center;">Stage 1</p> D-LRE (La bruja tiene una idea) [The witch has an idea] Procedure: translation unsolved <u><i>The witch idea</i></u>	P2: Y la bruja tiene una idea, ¿idea te acuerdas? [And the witch has an idea, do you remember idea?] P1: Sí, se escribe igual que en español. [Yes, it is written as in Spanish.] P2: Idea. La bruja... [Idea. The witch...] P1: The witch idea (They write it).	
<p style="text-align: center;">Stage 2</p> Solvable <u><i>Then, she has an idea</i></u> No evidence of noticing	P2: Then... Underlined in the model: <u>Then</u> , she has an idea.	
<p style="text-align: center;">Stage 3</p> Direct production (no search) Original output repeated <u><i>The witch idea</i></u>	P1: The witch idea (They write it).	

At stage 1 (Cycle 1), low level pair 3 from the teaching group attempted to write “La bruja tiene una idea” [The witch has an idea] to describe picture frame 4. After translating the L1 sentence, the pairs produced *Witch idea* , thus leaving the problem unsolved. At stage 2, although the model offered the exact solution to their problem, “*Then, the witch has an idea*”, the children did not mention, underline or make a note of it, and only appeared to notice the connector “then”. At stage 3, when rewriting their text, no further searches were made. Consequently, in their revised texts the original output *Witch idea* was repeated. In Trajectory 4b an unsolved problem at stage 1 that is solvable from the model, but for which there is no evidence of any noticing by the children, concludes with the repetition of the original faulty output.

TRAJECTORY 5a

An unsolved problem with no solution in the model is followed by the deletion of the original output

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unsolved Problem	Unsolvable	-	Deleted

Written product from Stage 1 to Stage 3 (frame 5)
 PRE-CLAUSE: **And se asusta a cat**
 NO TEXT AT STAGE 3
 Pair 4, Cycle 1 (Non-teaching group, LL)

Stage 1	
D-LRE (Y el gato se asusta.) [And the cat gets scared] Translation Unsolved <u>And se asusta a cat</u>	-P1: Y ¿cómo se escribe se asusta? [And how do you write he gets scared?] -P2: No sé, lo ponemos en español. [I do not know, we write it in Spanish] -P1: Se asusta a cat (They write it).
Stage 2	_____
Unsolvable	
Stage 3	_____
Deleted	

At stage 1 (cycle 1), low level pair 4 from the non-teaching group, when writing their original text (frame 5), tried to produce the sentence ‘y el gato se asusta’ [The cat gets scared], by translating it from the L1 into the L2. However, unable to do so they used their first language ‘and se asusta a cat’. At stage 2, the model did not offer a specific solution to their unsolved problem. Then, at stage 3, after not finding the solution to their problem this pair decided to delete their original output. This deletion represented an improvement to their text as they deleted L1 lexis when no solution was available and so upgraded the quality of their revised text.

As in the above example, the deletion of original output sometimes led to improvements. On other occasions, the deletion of original output was considered a drawback. For example, in stage 1 (cycle 1), high level pair 2 from the teaching group, when writing their original text (frame 5), tried to produce the sentence “*Deja el zumo y la galleta en la mesa*”, by translating it from the L1 into the L2. However, they wrote **Put the juice**

and cookie in the table. At stage 2, the model did not offer a specific solution to their unsolved problem. Instead for the corresponding picture frame in the model, the children found “*she uses her magic with the cat*”. At stage 3, this pair deleted the entire clause from their revised text. This was considered a drawback as the children lost valuable ideational content.

In Trajectory 5a, then, the absence of an available solution in the model to an unsolved problem at stage 1, involves the elimination of the original output at stage 3.

TRAJECTORY 5b

An unsolved problem with no solution in the model is followed by the repetition of the original output.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unsolved Problem	Unsolvable	-	Original output repeated
<p>Written product from Stage 1 to Stage 3 (frame 3) PROTO-CLAUSE 2: <i>The witch <u>haven't</u> milk.</i> PROTO-CLAUSE 3: <i>The witch <u>haven't</u> milk.</i> Pair 1, Cycle 1 (Non-Teaching group, HL)</p>			
Stage 1			
F-LRE (haven't) Morphological search Unsolved <u>haven't</u>	P1: The witch is haven't milk? The witch haven't milk. P2: Vale. [Ok.] P1: The witch haven't milk (They write it).		
Stage 2			
Unsolvable			
Stage 3			
Direct production (no search) Original output repeated <u>haven't</u>		P2: The witch haven't milk (They write it).	

At stage 1 (Cycle 1), high level pair 1 from the non-teaching group, when writing their original text (frame 3), tried to solve a language-related episode related to the choice of verb form by carrying out a short morphological search. They hesitated between two verb forms “*is haven't*” and “*haven't*”, finally deciding on *haven't*, and leaving, therefore, their problem unsolved. At stage 2, the model did not contain the verb form the children were looking for and at stage 3, they repeated their original output (*haven't*) directly, without engaging in any searches.

Trajectory 5b leads to the repetition of the original output even when it is incorrect, after finding no solution in the model to an unsolved problem at stage 1.

TRAJECTORY 6a

An unsolved problem with no solution in the model is partially solved independently of the model.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unsolved Problem	Unsolvable	-
		Partially solved without the model
Written product from Stage 1 to Stage 3 (frame 1)		
PRE-CLAUSE 1: Cat <u>mira</u> juice and toast.		
PROTO-CLAUSE 3: Cat <u>look</u> orange juice.		
Pair 3, Cycle 1 (Non-Teaching group, LL)		
<p>Stage 1</p> <p>L-LRE (mira) [Looks] Lexical search for looks unsolved <u>mira</u></p>	<p>P2: Cat... Cat...like?</p> <p>P1: No, está viendo... [No, he is watching...]</p> <p>P2: Mirando... [Looking...]</p> <p>P1: Lo tengo en la punta de la lengua... [I have it on the tip of my tongue...]</p> <p>P2: Si sé que lo hemos dado... [I know that we have learnt it]</p> <p>P2: Cat <u>mira</u> juice and toast (lo escriben). [The cat looks at the juice and the toast, they write it.]</p>	
<p>Stage 2</p> <p>Unsolvable</p>		_____
<p>Stage 3</p> <p>Direct production (no search) Partially solved without the model <u>look</u></p>	<p>P1: Cat <u>look</u> orange juice (They write it).</p>	

At stage 1 (Cycle 1), low level pair 3 from the non-teaching group, when describing picture frame 1, tried to solve a lexical problem (mira) by engaging in a lexical search for the corresponding L2 word (looks). Unable to find the solution, they wrote the L1 word “mira”. No solution was available in the model. At stage 3, the children partially solved their problem when they wrote “look” in their revised text. This partial solution may be attributed to factors unrelated to the model, such as the activation of previously taught L2 knowledge (see ‘I have it on the tip of my tongue’ and ‘I know we’ve learn it’ in stage 1) In sum, trajectory 6a leads to the partial solution of an unsolved problem at stage 1 without using the model.

TRAJECTORY 6b

An unsolved problem with no solution in the model is solved independently of the model.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unsolved Problem	Unsolvable	-	Solved without the model

Written product from Stage 1 to Stage 3 (frame 1)

PRE-CLAUSE 1: ***The bat*** sleeping in the techo.
 CLAUSE 3: ***There is one bat*** slipping in the ciling.
 Pair 1, Cycle 1 (Teaching group, HL)

<p style="text-align: center;">Stage 1</p> <p>D-LRE (Hay un murciélago durmiendo) [There is a bat sleeping] Translation Unsolved <u><i>The bat sleeping</i></u></p>	<p>P2: Hay un murciélago durmiendo. [There is a sleeping bat] P1: ¿Hay? [There is?] P2: No sé. ¿Cómo se decía murciélago? Bat. [I don't know. How do you say bat?] One bat sleeping... P1: <u><i>The bat</i></u> sleeping (They write it).</p>
<p style="text-align: center;">Stage 2</p> <p>Unsolvable</p>	<p>_____</p>
<p style="text-align: center;">Stage 3</p> <p>F-LRE (hay) [There is] Morphological search for “there is” Metalinguistic reasoning Solved not model <u><i>there is</i></u></p>	<p>P2: Ah, vale. Hay un murciélago sleeping... [Ah, ok. There is a bat sleeping.] P1: Hay, hay... ¿cómo era hay? [There is, there is...How was it?] P2: Have era tiene. [Have was have] -P1: Were, no. “there was”. -P2: No, “there are”... -P1: Yo creo que era “there was”. [I think it was “there was”] -P2: No, eso era había...[No, that was there was] -P2: There were, había más de uno...[There were, there were more than one...] -P1: There is, hay uno... [There is, there is one...] -P2: There are, hay más de uno... [There are, there are more than one...] -P1: Exacto, entonces es there is...<u><i>There is</i></u>... [Exactly, then it's there is... There is...]</p>

At stage 1 (Cycle 1) high level pair 1 from the teaching group struggled to produce in the L2 the sentence they had formulated in the L1 to describe the first picture frame (Hay un murciélago durmiendo). By translating it into the L2, they reduced their message to “The bat sleeping”, since they were unable to write, “hay” [There is]. At stage 2, there was no solution in the model for their original problem. However, at stage 3, the pair engaged in a long morphological search for “there is”, in which they discussed several options (there was/there were/there are/there is...) reflecting on the language using metalinguistic reasoning (*There are, there are more than one...*). In doing so they eventually arrived at the correct solution.

Trajectory 6b, then, involves finding the solution to an unsolved problem, despite not being solvable in the model, by activating previous L2 knowledge.

TRAJECTORY 7a

An unsolved problem whose partial solution in the model is noticed is followed by the deletion of the original output.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unsolved Problem	Partially solvable	Noticed
Written product from Stage 1 to Stage 3 (frame 4) PRE-CLAUSE 1: <i>The head scientific <u>bumm, bumm!</u></i> NO TEXT AT STAGE 3 Pair 1, Cycle 2 (Teaching group, HL)		
Stage 1 L-LRE (Explota) [Explodes] Lexical search for explodes Unsolved <u>Bum, bum!</u>	P2: The head cientific explota [The scientist’s head explodes]...The head scientific <u>bum, bum!</u> (They write it). P1: Big Bang! No.	
Stage 2 Partially solvable Noticed <u>There is a loud noise and a bright flash of light.</u> Clause Spot the difference (NEC)	P1: <u>There is a loud noise and a bright flash of light.</u> Nada de eso. [Nothing about that]	
Stage 3 Original output deleted		

At stage 1 (Cycle 2), high level pair 1 from the teaching group, when describing picture frame 4, engaged in a lexical search for the verb “explodes”, which led them to the compensatory use of the onomatopoeic sounds “bum, bum!”. At stage 2, the model did not offer an explicit solution to their problem. Picture frame 4 was described as “There is a loud noise and a bright flash of light”, which offered a partial solution for this pair’s problem. The partial solution was noticed only superficially as a difference between the model and their text and underlined without any evidence of comprehension (NEC). At stage 3, their original output was deleted.

In the previous example, the deletion of the children’s original output was considered an improvement as they deleted onomatopoeic language. However, on other occasions, the deletion of original output in the children’s revised text involved a drawback. For

example, in stage 1 (cycle 2), high level pair 1 from the non-teaching group, when writing their original text (frame 5), tried to produce the sentence ‘He transforms himself into a cat’, by translating it from the L1 into the L2. However, unable to do so correctly, they wrote ‘The person transform a cat’. At stage 2, the model did not offer the exact solution they were looking for. Instead for the corresponding picture frame in the model, the children found “*He turns into a cat*”. At stage 3, this pair deleted the entire clause from their revised text. This was considered a drawback as the children lost valuable ideational content.

Trajectory 7a leads to the deletion of the original output after having noticed only a partial solution in the model to an unsolved problem at stage 1.

TRAJECTORY 7b

An unsolved problem, whose partial solution in the model is noticed, is followed by the repetition of the original output.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unsolved Problem	Partially solvable	Noticed
Product Original output repeated		
Written product from Stage 1 to Stage 3 (frame 6) PRE-CLAUSE 4: <u>^Dog jump a cat Jose.</u> PRE-CLAUSE 4: <u>and ^dog jump a cat.</u> Pair 4, Cycle 2 (Non-Teaching group, LL)		
Stage 1 L-LRE (se pelean) lexical search unsolved “jump”	P1: La última... Se pelean...pelean... [The last one... They fight....They fight....] P2: No sé, salta...Dog jump a cat Jose. The end. (Lo escribe). [I don't know, jump...Dog jump a cat Jose. The end. (They write it)]	
Stage 2 Partially Solvable The dog attacks the cat Noticed Attacks Spot the differences (NEC)	UNDERLINED ONLY	
Stage 3 Direct production (no search) Original output repeated <u>jump</u>	P1: And dog jump a cat (they write it).	

At stage 1 (Cycle 2), low level pair 4 from the non-teaching group, tried to formulate the sentence ‘El perro y el gato se pelean’ [The dog and the cat fight’] for the last picture frame 6. However, unable to find the correct verb ‘fight’ they reformulated their sentence trying to compensate for that problem by writing ‘Dog jump a cat Jose’. At stage 2, the model offered only a partial solution to their problem ‘The dog attacks the cat’ which was noticed and underlined but without any evidence of comprehension. And at stage 3, the children repeated their original output.

In Trajectory 7b, despite the noticing of a partial solution to an unsolved problem, the original faulty output is repeated in the revised text.

TRAJECTORY 8

An unsolved problem with a partial solution in the model is noticed and partially incorporated.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unsolved Problem	Partially solvable	Noticed
Written product from Stage 1 to Stage 3 (frame 6) PRE-CLAUSE 7: Dog <u>jump</u> and cat. PROTO-CLAUSE 5: Dog <u>attac</u> cat. Pair 3, Cycle 2 (Non-Teaching group, LL)		
Stage 1 L-LRE (se pelean) [They fight] Lexical search for “fight” Unsolved <u>Jump</u>	P2: Dog and cat se pelean [Dog and cat fight] P1: Pero se pelean... [But they fight...] P1: Pelean... [Fight...] P1: Dog jump and cat. P2: Sí, mejor.[Yes, better]	
Stage 2 Partially solvable Noticed The dog <u>attacks</u> the cat Filling the hole (PCI)	P2: Attacks the cat, y nosotras hemos puesto jump en vez de atac... [And we have put jump instead of attacks]	
Stage 3 F-LRE Spelling search for attacks Unsolved <u>Attac</u> Partially incorporated	P1: Dog... attac cat, como lo ponía en el texto.... ¿Era así, attac con dos “t”? (lo escriben). [How it was written in the text? Was like this, attack with two “t”? They write it.] -P2: Yo creo que sí. [I think so]	

At stage 1 (Cycle 2), low level pair 3 from the non-teaching group failed to find a solution to a lexical-LRE (se pelean), for which they had carried out a lexical search, writing “*jump*” instead of ‘*fight*’. At stage 2, a partial solution to their problem (attacks) was noticed and understood semantically but not syntactically, as shown by their accurate translation of the L2 word. At stage 3, the children engaged in a spelling search when attempting to recall the feedback, but only managed to partially incorporate it (attac). Their attention to part of the spelling may have led them to overlook the final /k/. Trajectory 8 leads to the partial incorporation of a partial solution to an unsolved problem.

TRAJECTORY 9			
An unsolved problem has a partial solution in the model, which is noticed and fully incorporated			
STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unsolved Problem	Partially solvable	Noticed	Incorporated
Written product from Stage 1 to Stage 3 (frame 6)			
PRO-CLAUSE 6: <i>The dog <u>jump</u> the cat.</i>			
CLAUSE 8: <i>Finally, the dog <u>attacks</u> the cat.</i>			
Pair 1, Cycle 2 (Teaching group, HL)			
<p>Stage 1 L-LRE, (Se pelean) Lexical search for fight unsolved <u>jump</u></p>	<p>P1: Y ahora, ¿cómo es pelean? [And now, how do you say they fight?] P2: Salta sobre él. [He jumps over him] P1: The dog jump the cat.</p>		
<p>Stage 2 Partially solvable Noticed <i>Attacks the cat</i> → Filling the hole (Lexis, NEC)</p>	<p>P2: and attacks the cat, no. Nosotras no escribimos eso. [We did not write that] P2: The dog attacks the cat (They write it).</p>		
<p>Stage 3 Direct production (no search) <u>attacks</u> Incorporated</p>			

As in the previous example, at stage 1 (cycle 2), high level pair 1 from the teaching group, when describing frame 6, also failed to solve the lexical LRE (se pelean). They too carried out a lexical search for “fight” and, unable to find a correct solution, wrote ‘*jump*’, as their peers had done. At stage 2, the pair noticed a partial solution in the model (*attacks*), using a spot the difference strategy, without showing any evidence of comprehension. Nevertheless, at stage 3, these high level children (unlike the previous LL pair) succeeded in incorporating the partial solution noticed, without engaging in any further searches.

In Trajectory 9 children notice and incorporate a partial solution to an unsolved problem in their original output.

TRAJECTORY 10

An unsolved problem with a solution in the model, which is noticed, is followed by the repetition of the original output.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Product	Solution	Noticing
Unsolved Problem	Solvable	Noticed
Original output repeated		
Written product from Stage 1 to Stage 3 (frame 4)		
PRE-CLAUSE 4: <i>She <u>tiene</u> one idea.</i>		
PRE-CLAUSE 2: <i>She <u>tiene</u> one idea.</i>		
Pair 3, Cycle 1 (Non-Teaching group, LL)		
<p>Stage 1 L-LRE Lexical search for “has” unsolved <u>tiene</u></p>	<p>P1: Ella tiene una idea...tiene... tiene... [She has an idea...has...has...] P2: No me acuerdo [I do not remember it] P1: She <u>tiene</u> one idea (lo escriben). [She has one idea (they write it)]</p>	
<p>Stage 2 Solvable <u>Has</u> Noticed Spot the Difference (Lexis NEC)</p>	<p>P1: Then, <u>has</u>, idea ...(underlined)</p>	
<p>Stage 3 L-LRE Lexical search for ‘<i>tiene</i>’ Unsolved Original output repeated <u>tiene</u></p>	<p>P2: She... ¿Cómo se decía tiene? [How do you say “has”?] P1: No sé. [I do not know.] P2: She <u>tiene</u>... (lo escribe). [She has...(They write it)]</p>	

At stage 1 (Cycle 1), low level pair 3 from the non-teaching group, engaged in a lexical search for ‘tiene’ [has] but were unable to recall it and relied on the L1 word in their initial output. At stage 2, their lexical problem, which was solvable in the model (has), was noticed and underlined, but without further comment or evidence of comprehension. At stage 3, the children were unable to recall the feedback and, faced again with their initial problem, engaged in a lexical search for “has” which resulted in the repetition of their original incorrect output.

In Trajectory 10 solutions in the feedback are noticed but not retained and original output is repeated.

TRAJECTORY 11

An unsolved problem has a solution in the model, which is partially noticed and partially incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unsolved Problem	Solvable	Partially noticed	Partially incorporated

Written product from Stage 1 to Stage 3 (frame 3)

PRE-CLAUSE 4: *and cat feeds cat sandwich.*

PRE-CLAUSE 2: *and cat food sandwich.*

Pair 4, Cycle 1 (Teaching group, LL)

<p style="text-align: center;">Stage 1</p> <p>L-LRE (Está comiendo) Lexical search for “is eating” Unsolved “<u>feeds</u>”</p>	<p>P2: Está comiendo, ¿cómo se escribe?</p> <p>P1: Pon comiendo, nada más; feeds. Me parece que era feeds. Pon feeds o lo pones en español. [P2: He is eating, how do you write it? P1: Write eating only; feeds. I think it was feeds. Put feeds or write it in Spanish.]</p>
<p style="text-align: center;">Stage 2</p> <p>Solvable <i>Is eating</i> Partially noticed Underlined eating Filling the hole (NEC) <i>Food</i> → Lexis, Spot the Difference (NCI)</p>	<p>P1: She is eating, no lo hemos puesto (underlined “eating”). [She is eating, we haven’t put that.]</p> <p>P2: The witch’s food... Nosotros no pusimos food tampoco, pusimos feeds [We didn’t put food either, we put feeds.]</p>
<p style="text-align: center;">Stage 3</p> <p>L-LRE, verb (comer → food) Unsolved</p>	<p>P1: Comer... ¿Cómo se dice comer? [Eat...How do you say eat?]</p> <p>P2: Yo creo que era food o feeds...Pon food. [I think it was food or feeds...Put food.]</p> <p>P1: <u>Food</u> sandwich (They write it).</p>

At stage 1 (Cycle 1), low level pair 4 from the teaching group, when describing picture 3, engaged in a lexical search for “is eating”, but, unable to recall the L2 term, resorted to using “feeds” as a compensatory measure. At stage 2, their lexical problem was explicitly solvable in the model, which included “is eating”. However, the children only partially noticed this solution, underlining “eating” and overlooking the auxiliary verb “is”, without showing any evidence of comprehension. Furthermore, they also noticed the lexical item “food”, and incorrectly associated it to their original output “feeds”, thus mistakenly identifying it as the solution to their original lexical problem. This became

apparent in stage 3 when, faced with the problem again, their lexical search led to the retrieval of the inappropriate lexical solution “cat food sandwich”. Their failure to understand the meaning of “food” led to a faulty form-function mapping, which showed up as a partial incorporation in their revised texts.

In sum, Trajectory 11 involves partially noticing solutions to linguistic problems in the feedback and their partial incorporation.

TRAJECTORY 12

An unsolved problem whose solution in the model is noticed and incorporated.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Product	Solution	Product
Unsolved Problem	Solvable	Noticed
Written product from Stage 1 to Stage 3 (frame 3) PRE-CLAUSE 2: <u>Entonces</u> the witch look su juice. CLAUSE 4: <u>Then</u> , the witch look her juice. Pair 1, Cycle 1 (Teaching group, HL)		
Stage 1 L-LRE (entonces) Lexical search for “then” unsolved <u>Entonces</u>	P2: Entonces, ¿Cómo se escribía? [Then, how do you write it?];¿After? P1: No lo sé...[I don’t know] P1: Entonces...(They write it)	
Stage 2 Solvable <u>Then</u> Noticed <i>Then</i> → (Lexis, PCI) filling the hole	P2: Then, entonces! Así era entonces... [Then...That was then...]	
Stage 3 L-LRE (entonces) Translation solved <u>Then</u> Incorporated	P1: Entonces, pon entonces... P2: No me acuerdo... [I can’t remember it...] P1: ¡Then! ¡Then! P2: Then...(They write it)	

At stage 1 (Cycle 1), high level pair 1 from the teaching group, engaged in a failed lexical search for the connector “then” and wrote “entonces” in the L1. At stage 2, the problem, which was solvable in the model, was noticed, thus enabling the children to fill the hole the problem had left at stage 1. They identified the L2 item and showed their semantic comprehension by translating it into the L1. At stage 3, their lexical search was successful as they retrieved and incorporated the feedback appropriately. In this same picture frame, Trajectory 12 was also used to solve the problem “su” at stage 1, noticing the solution in the model “her” and incorporating it into their rewritten output (see products above). Trajectory 12 leads children to find the solutions in the model to problems they faced when writing and to incorporate them into their written output.

TRAJECTORY 13

An unsolved problem whose solution in the model is noticed, is followed by the deletion of the original output.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unsolved Problem	Solvable	Noticed
Written product from Stage 1 to Stage 3 (frame 1) PRE-CLAUSE 2: <i>In the evening a <u>dring</u> whoter.</i> PROTO-CLAUSE 1: <i>Wiht eat sanwich a ^orange juice.</i> Pair 4, Cycle 1 (Non-Teaching group, LL)		
Stage 1 F-LRE (bebe) Spelling search for “drinks” unsolved <u>dring</u>	P1: Y bebe, ¿Cómo se escribe? [And drinks, how do you write it?] P2: Dring, D-r-i-n-g. (They write it).	
Stage 2 Solvable <u>Drinks</u> Noticed by filling the hole (PCI)	P1: The cat... drinks (underlined). Y nosotros pusimos dring. [And we put dring]	
Stage 3 Original output deleted		

At stage 1 (Cycle 1), low level pair 4 from the non-teaching group encountered a spelling problem with the verb “drinks” in picture 1, which they were unable to solve correctly, writing “dring”. At stage 2, the model offered a solution to the problem, with the children noticing “drinks” when comparing their text to the model, thus filling the hole in their knowledge. At stage 3, they deleted their original L2 output, eliminating ideational content despite having noticed a solution in the model.

Trajectory 13, then, involves the deletion of original output when rewriting a text despite having noticed a solution in the model to an unsolved problem.

TRAJECTORY 14a

An unreported problem, with no solution in the model, leads to the deletion of the original output.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unreported problem	Unsolvable	-	Original output deleted

Written product from Stage 1 to Stage 3 (frame 5)

PRE-CLAUSE 6: *And dog look and cat*

PRE-CLAUSE 5: *And dog look*

Pair 3, Cycle 2 (Non-teaching group, LL)

Stage 1

Direct production (no search)

And dog look and cat

Unreported problem

P1: *And dog look and cat*

Stage 2

Unsolvable

Stage 3

Original output deleted

And dog look

P1: *And dog look*

At stage 1 (Cycle 2), low level pair 3 from the non-teaching group wrote ‘and dog look and cat’, meaning ‘and the dog looks at the cat’ when describing picture frame 5 in the story, without explicitly acknowledging the existence of any problems. At stage 2, the model did not offer any solutions to their problems and at stage 3, they decided to delete part of their original L2 output ‘and cat’.

Trajectory 14a leads children to delete original output (where they did not report having any problems) when rewriting their text after not finding anything related to it in the model.

TRAJECTORY 14b

An unreported problem, with no solution in the model is followed by the repetition of the original output.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unreported problem	Unsolvable	-	Original output repeated
Written product from Stage 1 to Stage 3 (frame 5) PROTO-CLAUSE 3: <u><i>And dog look the cat</i></u> PROTO-CLAUSE 3: <u><i>And dog look the cat</i></u> Pair 1, Cycle 2 (Non-Teaching group, HL)			

Stage 1

Direct production (no search) P1: And dog look the cat (They write it)

And dog look the cat

Unreported problem

Stage 2

Unsolvable

Stage 3

Direct production (no search) P1: And dog look the cat (They write it)

And dog look the cat

Original output repeated

At stage 1 (Cycle 2), high level pair 1 from the non-teaching group wrote directly “*And dog look the cat*” when describing picture 5, without reporting any problems. At stage 2, this content was not included in the model and at stage 3, the children repeated their original output without engaging in any searches.

Trajectory 14b involves the repetition of the original output in the revised texts when no similar content is included in the feedback.

TRAJECTORY 15a:			
An unreported problem, whose solution in the model is unnoticed, is followed by the repetition of the original output.			
STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unreported problem	Solvable	No evidence of noticing	Original output repeated
Written product from Stage 1 to Stage 3 (frame 1)			
PROTO-CLAUSE 3: <i>^Bat sleeping.</i>			
PROTO-CLAUSE 2: <i>^Bat in the sleeping.</i>			
Pair 3, Cycle 1 (Non-Teaching group, LL)			
Stage 1			
Bat (no article) Unreported problem	P2: Bat sleeping... (The write it).		
Stage 2			
Solvable a bat No evidence of noticing Not verbalized, underlined or written	P1: white... <u>subráyalo</u> [Underline it] Underlined: a <u>white</u> bat		
Stage 3			
Bat Original output repeated	P2: Bat in the sleeping (The write it).		

At stage 1 (Cycle 1), low level pair 3 from the non-teaching group wrote “bat” when describing the first picture without reporting any problems, despite the absence of the indefinite article. At stage 2, they did not seem to notice in the model the solution to this unreported problem “a” bat because they did not comment on it, underline or make a note of it, instead, they focused on the adjective ‘white’. At stage 3, their original output was repeated as in stage 1.

Trajectory 15a, therefore, leads to the repetition of original output after not having noticed the solution to an unreported problem at stage 1.

TRAJECTORY 15b			
An unreported problem has a solution in the model, for which there is no evidence of noticing, but which is incorporated.			
STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unreported problem	Solvable	No evidence of noticing	Incorporated
Written product from Stage 1 to Stage 3 (frame 3)			
PROTO-CLAUSE 2: <i>The cat eating the <u>sanwhich</u>.</i>			
PROTO-CLAUSE 4: <i>The cat eating the <u>sandwich</u> and the whitch.</i>			
Pair 3, Cycle 1 (Teaching group, LL)			
Stage 1			
Unreported problem	P1: The cat eating the <u>sanwhich</u> (they write it).		
<u>Sanwhich</u>			
Stage 2			
Solvable	Not verbalized, underlined or written.		
<u>sandwich</u>			
No evidence of noticing			
Stage 3			
<u>sandwich</u>	P1: <i>The cat eating the <u>sandwich</u> and the whitch.</i> (they write it).		
Incorporated			

At stage 1 (Cycle 1), low level pair 3 from the teaching group wrote “*sanwhich*” when describing picture 3 without reporting any problems with the spelling. At stage 2, they did not seem to notice in the model the correct spelling “sandwich” because they did not comment on it, underline or make a note of the word. Nevertheless, at stage 3, despite not having shown any evidence of noticing, they incorporated the words with the correct spelling when rewriting their text.

Trajectory 15b, therefore, leads to the incorporation at stage 3 of a solution from the model to an unreported problem at stage 1 despite the absence of noticing at stage 2.

TRAJECTORY 16

An unreported problem has a solution in the model, which is noticed but not incorporated.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unreported problem	Solvable	Noticed

Written product from Stage 1 to Stage 3 (frame 2)

PROTO-CLAUSE 2: *The cat drinking the juice of the witch.*

CLAUSE 2: *The cat drinking the juice.*

Pair 1, Cycle 1 (Teaching group, high level)

Stage 1

The cat drinking the juice of the witch. P1: The cat drinking the juice of the witch (they write it).

Unreported problem

Stage 2

Solvable

Noticed

The cat drinks the witch's orange juice → translation (clause, PCI)

P2: El gato bebe el zumo de naranja de la bruja. Y nosotros hemos puesto the bat sleeping in the techo, en esa frase. [The cat drinks the witch's orange juice. And we put the bat sleeping in the ceiling in that sentence.]

Stage 3

Direct production

The cat drinking the juice

Not incorporated

P1: The cat drinking the juice (they write it).

At stage 1 (Cycle 1), high level pair 1 from the teaching group wrote for picture 2 “*The cat drinking the juice of the witch*” without reporting any problems with the clause. At stage 2, the model offered a solution to this unreported problem (The cat drinks the witch's orange juice), which was noticed and translated, showing that they had understood the meaning but not the use of the possessive –s (PCI). However, the children did not associate this phrase to their unreported problem, since they seemed to be comparing their text with the model through ‘one to one matching’ that is, comparing each sentence they had written with the corresponding sentence in the model. Therefore, if the solution was on a different line, they did not connect it to their own text despite having noticed it. At stage 3, they partially repeated their original output, although deleting part of the sentence. Trajectory 16, therefore, does not lead to the incorporation of a solution noticed in the model to an unreported problem.

TRAJECTORY 17

An unreported problem whose solution in the model is partially noticed is followed by the deletion of the original output.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Unreported problem	Solvable	Partially noticed
Written product from Stage 1 to Stage 3 (frame 6) CLAUSE 6: <i>Now the cat is a cat and <u>after</u> the cat is a bat</i> CLAUSE 7: <i>Now the cat is a white bat.</i> Pair 1, Cycle 1 (Non-Teaching group, high level)		
Stage1 <u>After</u> Unreported problem	P2: Now the cat is a cat and <u>after</u> the cat is a bat (They write it).	
Stage 2 Solvable <u>After that</u> Partially Noticed After , Spot the difference (NEC) That No evidence of noticing	P2: After P1: After sí lo hemos puesto... P1: Yes, after. Look, look! That: Not verbalized, underlined or written.	
Stage 3 Original output deleted	P1: Now the cat is a white bat (they write it).	

At stage 1 (Cycle 1), high level pair 1 from the non-teaching group wrote “after” (instead of “*after that*”) when describing picture 6 and did not report any problems. At stage 2, they partially noticed in the model the solution, they noticed “after”, using the strategy of spotting the differences, but they did not show any evidence of having noticed “that”, which they did not comment on, underline or make a note of. At stage 3, they reformulated the clause and deleted part of their original L2 output “after the cat is a bat”.

Trajectory 17 involves the deletion of original output when rewriting a text after having partially noticed partially a solution in the model to an initially unreported problem.

TRAJECTORY 18a

An unreported problem whose solution in the model is noticed and partially incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unreported problem	Solvable	Noticed	Partially incorporated

Written product from Stage 1 to Stage 3 (frame 6)
 PROTO-CLAUSE 3: **The dog go to punch he!**
 CLAUSE 8: **The dog go to attack him!**
 Pair 2, Cycle 2 (Teaching group, high level)

<p>Stage 1 <u>The dog go to punch he!</u> Unreported problem</p>	<p>P1: The dog go to punch he! (They write it).</p>
<p>Stage 2 Solvable Noticed</p>	<p>P2: Finally, the scientist’s dog wakes up angrily and attacks the cat. P1: El perro del científico se despierta y ataca al gato. P2: No lo hemos puesto.</p>
<p><u>Finally, the scientist’s dog wakes up angrily and attacks the cat</u> Translation, Spot the difference (PCI) <u>Him</u>, Translation (PCI)</p>	<p>Nosotros hemos puesto the dog go to punch he. [The scientist’s dog wakes up and attacks the dog. We didn’t put that. We put the dog go to punch he.] (They write: <u>attacks</u> the cat → the dog go to punch he). P1: It’s late and his dog is sleeping on the table next to <u>him</u>. P2: A su lado está un perro que está durmiendo en la mesa seguido de él.</p>
<p>Stage 3 Direct production <u>The dog go to attack him!</u> Partially incorporated</p>	<p>P1: The dog go to attack him! (They write it).</p>

At stage 1 (Cycle 2), high level pair 1 from the teaching group did not report any problems when producing the sentence “The dog go to punch he” for picture 6. At stage 2, the children noticed the solutions the model offered for their unreported problems; the clause “Finally, the scientist’s dog wakes up angrily and attacks” which was noticed by spot the difference and translation (PCI), and the pronoun “him” from the clause “It’s late and his dog is sleeping on the table next to him”, that was noticed and translated (PCI). At stage 3, they incorporated part of the solutions correctly “*The dog go to attack him!*” Trajectory 18a, therefore, involves the partial incorporation of solutions noticed in the model to unreported problems in the original text.

TRAJECTORY 18b

An unreported problem has a solution in the model which is noticed and incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Unreported problem	Solvable	Noticed	Incorporated

Written product from Stage 1 to Stage 3 (frame 2)
 PROTO-CLAUSE 3: *The scientific drink a potion.*
 CLAUSE 3: *The scientist drinks the new potion.*
 Pair 1, Cycle 2 (Teaching group, high level)

<p style="text-align: center;">Stage 1</p> <p>Direct production <u>drink</u> Unreported problem</p>	<p>P1: The scientific drink a potion (They write it).</p>
<p style="text-align: center;">Stage 2</p> <p>Solvable Noticed <u>drinks</u> → translation, metalinguistic reasoning (Form, CI)</p>	<p>P2: He drinks, eso sí lo hemos puesto. The whole potion. P1: El bebe la poción, ellos han puesto drinks y nosotras hemos puesto drink, se nos ha olvidado poner la “s” de tercera persona.</p>
<p style="text-align: center;">Stage 3</p> <p>Direct production <u>Drinks</u> Incorporated</p>	<p>P1: The scientist drinks the new potion. (They write it).</p>

At stage 1 (cycle 2), high pair 1 from the teaching group wrote “drink” without reporting any problems with the third person singular ‘s’ when describing picture 2. A solution offered by the model was noticed by translating the feedback and engaging in metalinguistic reasoning (CI). It was then directly incorporated at stage 3 (Drinks). Trajectory 18b leads to the incorporation of solutions from the model to unreported problems in the original text after having noticed those solutions at stage 2.

TRAJECTORY 19

A solved problem, which has no solution in the model, is followed by the repetition of the original output.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Solved problem	Unsolvable	-	Original output repeated
Written product from Stage 1 to Stage 3 (frame 5)			
CLAUSE 4: <i>The black bat <u>wakes up.</u></i>			
CLAUSE 7: <i>The black bat <u>wakes up.</u></i>			
Pair 1, Cycle 1 (Teaching group, high level)			
Stage 1	P1: The bat...		
L-LRE, verb (se despierta)	P2: The black bat...¿Se despierta? [Wakes up?]		
Lexical search for “wakes up”	P1: A ver, ¿cómo se decía “se despierta”? [Let’s see, how do you say “wakes up”?]		
Solved	P2: Get up.		
<u>wakes up.</u>	P1: Get up. No, no...Wakes up! (They write it).		
Stage 2	_____		
Unsolvable			
Stage 3			
Direct production	P1: The black bat wakes up (they write it).		
Original output repeated			
<u>wakes up.</u>			

At stage 1 (Cycle 1), high level pair 1 from the teaching group solved a lexical LRE (“se despierta”) by carrying out a lexical search for “wakes up” successfully. At stage 2, this lexical item was not included in the model text. At stage 3, this pair repeated their original correct output.

Trajectory 19 involves the confirmation of a solved problem at stage 1, which is repeated at stage 3 despite not being in the model.

TRAJECTORY 20a

A solved problem has an alternative solution in the model which is noticed and partially incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Solved problem	Alternative	Noticed	Partially incorporated
Written product from Stage 1 to Stage 3 (frame 1)			
PROTO-CLAUSE 2: Wuich have <u>toast</u> and juice.			
PROTO-CLAUSE 1: Witch have dinner orange juice and <u>sanguiw</u> .			
Pair 3, Cycle 1 (Non-Teaching group, low level)			
Stage 1			
F-LRE, (tostada)			
Spelling search for ‘toast’			
Solved ‘ <u>toast</u> ’			
Stage 2			
Alternative			
<u>Sandwich</u>			
Noticed			
Spot the differences (NEC)			
Underlined			
Stage 3			
F LRE)			
Spelling search for “sandwich”			
Unsolved			
<u>Sanguiw</u>			
Partially incorporated			

At stage 1 (Cycle 1), low level pair 3 from the non-teaching group correctly solved a form-focused LRE in picture 1 by carrying out a spelling search for “toast”. At stage 2, the model offered a lexical alternative (sandwich), which was noticed through spotting the differences and underlined, without showing any evidence of comprehension. At stage 3, influenced by the alternative noticed in the model, the children included it in their revised text. To do so, they carried out an unsuccessful spelling search for “sandwich”. Although the outcome was not correct, the pair took a risk in trying to incorporate the new lexis. Trajectory 20a, then, involves the partial incorporation of an alternative to a solved problem offered by the model and noticed by the children.

TRAJECTORY 20b

A solved problem with an alternative solution in the model is noticed and incorporated

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Solved problem	Alternative	Noticed

Written product from Stage 1 to Stage 3 (frame 1)

PROTO-CLAUSE 1: *A day in a science room, a crazy science man do a potion, a mystery potion*

PROTO-CLAUSE 1: *A day a scientist, he is in his laboratory.*

Pair 2, Cycle 2 (Teaching group, high level)

<p>Stage 1</p> <p>L-LRE (laboratory)</p> <p>Lexical search</p> <p>Solved</p> <p><u><i>a science room</i></u></p>	<p>P1: In a...</p> <p>P2: Laboratory...</p> <p>P1: ¿Laboratory? A day in a laboratory...</p> <p>P1: No... Where's the science... <u>Science room!</u></p>
<p>Stage 2</p> <p>Solvable</p> <p><u>His laboratory</u></p> <p>Noticed by translation, spot the difference (PCI)</p>	<p>P1: A scientist is <u>in his laboratory</u> (underlined) Un científico está en su laboratorio [A scientist is in his laboratory]</p>
<p>Stage 3</p> <p>Direct production</p> <p><u>his laboratory</u></p> <p>Incorporated</p>	<p>P1: He is in his laboratory (they write it).</p>

At stage 1 (Cycle 2), high level pair 2 from the teaching group solved a lexical problem (laboratory) via a lexical search, writing “science room”. At stage 2, an alternative was noticed in the model (in his laboratory) by spotting the differences and translation (PCI). At stage 3, their original output was rewritten influenced by the alternative noticed in the model that is incorporated (in his laboratory).

In Trajectory 20b, children incorporate an alternative solution to a solved problem after having noticed it in the model.

TRAJECTORY 21			
A solved problem, which is confirmed by the model, is noticed and repeated.			
STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Solved problem	Solvable	Noticed	Original output repeated
Written product from Stage 1 to Stage 3 (frame 1)			
CLAUSE 2: <u><i>The bat is sleeping.</i></u>			
CLAUSE 1: <u><i>The bat is sleeping.</i></u>			
Pair 1, Cycle 1(Non-Teaching group, high level)			
Stage 1	P1: The bat is sleep.		
F-LRE (Is sleep)	P2: And...the bat is ...		
Morphological search for “is sleeping”	P1: S-l-e-e-p-i-n-g.		
Solved			
<u><i>The bat is sleeping.</i></u>			
Stage 2	P1: A bat is sleeping, yes.		
Solvable			
<u><i>A bat is sleeping</i></u>			
Noticed by Spot the difference, (NEC)			
Stage 3	P1: The bat is sleeping (They write it).		
Direct production			
<u><i>The bat is sleeping.</i></u>			
Original output repeated			

At stage 1 (Cycle 1), high level pair 1 from the non-teaching group when writing about picture 1 doubted between two forms “*is sleep*” and “*is sleeping*”, but solved the form-focused LRE correctly after engaging in a morphological search (*is sleeping*). At stage 2, the solution they found was also offered by the model and noticed by the children using spot the difference in which they confirmed their original solution (*yes*). At stage 3, the children repeated their original output, this time without any searches.

Trajectory 21 involves the confirmation by the model of a solved problem at stage 1 and its repetition in the revised text.

TRAJECTORY 22

A solved problem has an alternative solution in the model, which is noticed but the original output is repeated.

STAGE 1	STAGE 2	STAGE 3
Process	Solution	Noticing
Solved problem	Alternative	Noticed
Written product from Stage 1 to Stage 3 (frame 1) CLAUSE 1: <i>The ugly person <u>has a potion.</u></i> CLAUSE 1: <i>The scientist <u>has a potion.</u></i> Pair 1, Cycle 2 (Non-Teaching group, high level)		
Stage 1 D-LRE, (Ha creado una poción) Translation solved <u><i>has a potion</i></u>	P2: Ha creado un poción... [He has created a potion.] P1: Has. P2: Has P1: A potion.	
Stage 2 Alternative <u><i>he finishes his new potion.</i></u> Noticed by Spot the difference NEC Underlined	<u>P1: After hours of work, he finishes his new potion.</u> (underlined)	
Stage 3 Direct production <u><i>has a potion</i></u> Original output repeated	P1: The scientist has a potion. (They write it).	

At stage 1 (Cycle 2), high level pair 1 from the non-teaching group dealt with a clausal LRE (*ha creado una poción*) when describing picture 1, which they solved correctly by translation (The ugly person has a potion). At stage 2, an alternative in the model (he finishes his new potion) was noticed it by spotting the differences (underlining), but without further evidence of comprehension. At stage 3, the children failed to incorporate the alternative and repeated their original output.

Trajectory 22 leads to the repetition of the original correct output in spite of having noticed an alternative in the model.

TRAJECTORY 23

A solved problem, which is unrelated to the model, is followed by the deletion of the original output.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
Solved problem	-	-	Original output deleted

Written product from Stage 1 to Stage 3 (frame 5)

CLAUSE 2: *The dog observes the cat.*

NO TEXT AT STAGE 3

Pair 3, Cycle 2 (Teaching group, low level)

Stage 1

D-LRE (El perro observa al gato)	P1: El perro observa al gato... [The dog observes the cat] P2: The dog observes the cat. (They write it)
Translation solved	

The dog observes the cat.

Stage 2

Not in the model _____

Stage 3

Original output deleted _____

At stage 1 (Cycle 2), low level pair 3 from the teaching group solved a clausal LRE in picture 5 (*El perro observa el gato*) by translating into the L2 (“The dog observes the cat”). At stage 2, there was no correspondence to this ideational content in the model with the result that, at stage 3, the children deleted a whole correct clause from their text ‘the dog observes the cat’, thus downgrading their revised text.

Trajectory 23 involves, then, the deletion of original output in the rewritten text when corresponding content is not included in the model.

TRAJECTORY 24

New content unrelated to the original text and to the model is incorporated.

STAGE 1	STAGE 2		STAGE 3
Process	Solution	Noticing	Product
-	-	-	New content
Written product from Stage 1 to Stage 3 (frame 6)			
NO TEXT AT STAGE 1			
PROTO-CLAUSE 8: <u><i>and she finishes sandwich and orange juice.</i></u>			
Pair 4, Cycle 1 (Teaching group, LL)			

<p>Stage 1 No output</p> <p>Stage 2 Not in the model</p> <p>Stage 3 Direct production <u><i>and she finishes sandwich and orange juice</i></u> New content</p>	<p>_____</p> <p>_____</p> <p>P1: <i>and she finishes sandwich and orange juice</i> (They write it).</p>
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At Stage 3, the children included in their revised texts new content that was neither in their original text nor in the model (“*and she finishes sandwich and orange juice*”). In this case, they wrote the clause directly without any searches and without reporting any problems. On other occasions adding new content can mean having to deal with new language-related episodes.

IV. 1. 2. The Language Learning potential of the Trajectories

Research question 1 also addressed whether the trajectories deployed by the children could be differentiated in terms of their language-learning potential (LLP) and, if so, whether the children's use of trajectories with more and less language-learning potential was mediated by instruction and/or proficiency. These results to these questions are presented below.

Classification of Trajectories with more and less language learning potential

As outlined previously, within a cognitive framework second language learning is understood as a developmental process involving the internalization, restructuring and consolidation of new knowledge, all of which are mediated by noticing and output (Williams, 2012). Consequently, the trajectories considered to embody more language-learning potential will necessarily include: (i) those in which learners are seen to actively process the feedback either by (a) identifying gaps between the model and their own problematic written output or (b) by noticing new linguistic or ideational content that allows them to extend their existing knowledge; and (ii) those in which the result of feedback processing impacts positively on their rewritten texts in terms of improvements in the accuracy and acceptability of their written output.

Table 19 below illustrates the trajectories ranked according to their potential for enhancing language learning in accordance with two main principles: firstly, the noticing (or lack of) that learners engaged in during the different stages of the multi-stage task and secondly, the influence of this noticing on the learners' final written output. The combination of these two factors was taken as indication of the language learning potential inherent to the trajectory. As a result, trajectories ranged from those in which there was no evidence of noticing during writing or feedback analysis to those which involved the noticing of language-related problems during the composition process (stage 1) only, noticing of new input from feedback analysis only (stage 2), or those which involved both noticing of problems at stage 1 and solutions in the feedback at stage 2. Additionally, the learners' combined noticing of problems in their initial output and solutions or alternatives in the feedback were directly linked to their outcome in terms of the resulting impact on the written output at stage 3. Thus, the failure to incorporate new

input or solutions to problems from the feedback, as well as the repetition of faulty output or deletions of ideational content in the revised texts, were considered to involve less potential for language-learning than when the noticing of solutions or alternatives to language-related problems, or the noticing of new content was either partially or fully incorporated into the children's final written texts.

Trajectories classified as having more language-learning potential (MLLP) included those in which the learners: (i) noticed and incorporated new input from the model text (Trajectory 3); (ii) used the model to solve a problem they had failed to report while writing their original texts (Trajectory 18b) or reported having noticed while analyzing the feedback (Trajectory 15b); (iii) found solutions in the model to problems they had struggled with while writing their original texts (Trajectories 9, 12); (iv) identified and incorporated solutions or alternatives for problems they had previously solved or used the feedback to confirm and maintain their original output (Trajectories 20b, 21, 22) and (v) solved problems or added new content without recourse to the model (Trajectories 6a, 24).

Conversely, trajectories considered as having less language-learning potential (LLLP) had a negligible impact on the learners' final texts and included those in which the children discarded or repeated their original output when (i) they failed to notice or only partially noticed solutions to unsolved or unreported problems in the feedback (Trajectories 4a, 4b, 15a, 17); (ii) no solution or only partial solutions were available in the model for unsolved (Trajectories 5b, 7b), unreported (Trajectories 14a, 14b) or solved problems (Trajectory 23), and (iii) when new input in the model and solutions to problems were noticed but not incorporated (Trajectories 1, 10, 13, 16).

The remaining trajectories could be considered as the mid-point between the previous groups in terms of their potential for enhancing language learning, since they involved some degree of noticing and the incorporation of input from the model, albeit partially. This group of trajectories included the (i) noticing and partial incorporation of new input (Trajectory 2); (ii) noticing or partial noticing of solutions to unsolved (Trajectories 8, 11) and unreported problems (Trajectory 18a); (iii) noticing and partial incorporation of alternatives to previously solved problems (Trajectory 20a), (iv) partial solutions found

independently of the model (Trajectory 6), or (v) the deletion of original output when no solutions or partial solutions were available in the model (Trajectories 5a and 7a).

Table 19

Classification of Trajectories according to their language-learning potential

Language Learning Potential of Trajectories				
		LESS	→ MORE	
Modifications to original output				
Noticing during writing and feedback analysis	No incorporation of feedback Repetition of faulty output Deletion of original output		Partial incorporation of feedback or solution Error/L1 deletion	Incorporation of feedback or solution Inclusion of new ideational content
No evidence of noticing	14a 14b 15a			15b
Noticing at Stage 1	4a 4b 5b 23		5a 6a	6b 19
Noticing at Stage 2	1 16 17		2 18a	3 18b
Noticing at Stages 1 and 2	7b 10 13		7a 8 11 20a	9 12 20b 21 22
Stage 3				24

Language Learning Potential of Trajectories and Changes in Written Output

The theoretically-driven classification of the language-learning potential of the trajectories was further strengthened by examining the data in order to pinpoint for each trajectory the linguistic gains or losses involved in every change between the children's initial and revised texts of both writing cycles. This was achieved through the micro analytic procedure outlined in the Method section (Table 14 and Appendix 19) whereby each linguistic modification across clausal units in the children's output was identified as

an either an improvement, a partial improvement or a drawback. This meant that the broad categories of trajectory outcomes at stage 3 (incorporated, deleted, repeated, etc.) were further developed and refined to identify instances of textual upgrading (improvements and partial improvements) and downgrading (drawbacks), depending on the impact of the linguistic change on the revised text in relation to the original output. In this way, for instance, different trajectory outcomes (e.g. incorporations, error deletions, etc.) were considered as one of the three possibilities: 1) improvement, 2) partial improvement or 3) drawback. Figure 6 shows the trajectory outcomes that led the children to improve their rewritten texts.

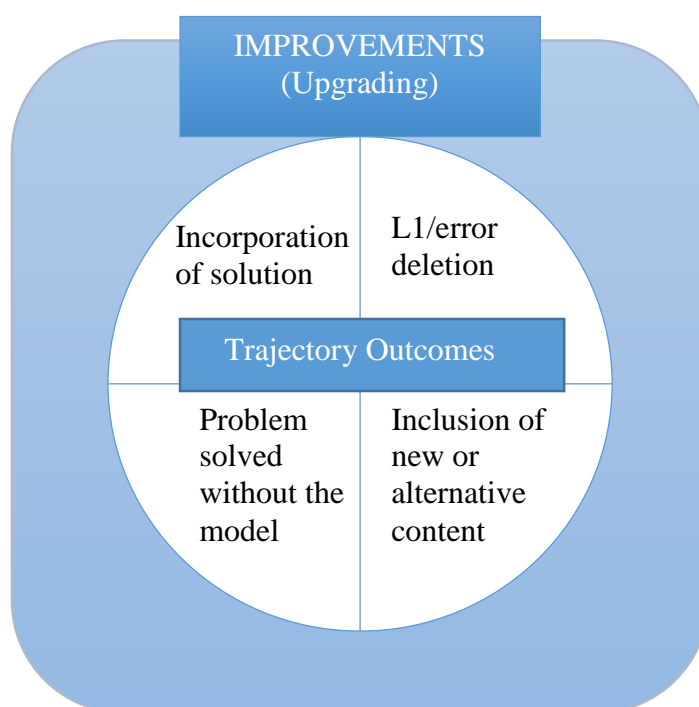


Figure 6. Trajectory outcomes leading to improvements in the children’s texts.

Following this procedure, it was expected that the trajectories involving the noticing and incorporation of feedback would lead to a higher number of improvements in the children’s writing. Similarly, trajectories with less potential for enhancing language learning were expected to be associated with fewer improvements and more drawbacks (see Table 18 above). This potential relationship was tested by computing the overall raw frequencies for the improvements, partial improvements and drawbacks identified for each trajectory in association with the clausal transitions in the children’s original and final texts (see Method, Table 14 and Appendix 19). The results of global frequency

counts of the improvements, partial improvements and drawbacks established for each trajectory is illustrated in Table 20 below.

Table 20

Global raw frequencies of improvements, partial improvements and drawbacks associated with the Trajectories

Trajectories	Refined outcome at Stage 3		
	Improvements	Partial Improvements	Drawbacks
1	0	0	0
2	8	18	2
3	19	1	0
4a	0	0	1
4b	0	5	1
5a	5	0	3
5b	0	3	0
6a	0	10	0
6b	7	0	0
7a	2	0	4
7b	0	2	1
8a	0	8	0
9	2	0	0
10	0	3	21
11	1	20	3
12	22	0	0
13	0	0	4
14a	0	0	5
14b	0	1	0
15a	0	1	0
15b	6	0	0
15c	1	0	0
16	0	0	2
17	0	0	12
18a	3	1	1
18b	5	0	0
19	2	1	0
20a	0	2	0
20b	13	0	0
21	7	0	0
22	0	2	0
23	0	0	3
24	3	4	3

The raw frequency counts of the modifications to the children's output supported the classification of trajectories into those with more and less language-learning potential. The three trajectories that led to most improvements in the children's writing and thus were held to have more potential for enhancing language learning were Trajectory 12 (n= 22), Trajectory 3 (n= 19) and Trajectory 20b (n= 13) (indicated in blue). The first of these trajectories (T12) involved finding and noticing a solution in the model to a problem that the children had been unable to solve at stage 1 and incorporating that solution into their written output. In other words, the deployment of this trajectory enabled the children to use the feedback to fill gaps they had noticed in their L2 knowledge during the composing process. Trajectory 3 involved drawing on the model as a source of input and noticing new L2 items they had not initially included in their original texts, while Trajectory 20b allowed learners to upgrade their original texts through the identification of better alternatives in the model. In all three cases, the language-learning potential of the trajectories translated into advances in the overall quality of the children's written output.

Some degree of language learning, operationalized as partial improvements in the children's output, was also associated with the use of Trajectory 11 (n= 20), involving the partial noticing of a solution to an L2 problem, Trajectory 2 (n= 18) in which new input from the model was noticed but only partially incorporated, and Trajectory 6a (n= 10), by which the children solved problems without directly recurring to the model. The use of all three trajectories occasioned partial improvements in the children's writing.

In comparison, the trajectories that led to zero improvements and multiple drawbacks were clearly held to have less potential for advancing language learning (indicated in red). These were, firstly, Trajectory 10 (n= 21), which led learners to repeat their original faulty output in their revised texts despite having noticed a solution to a linguistic problem in the feedback. Secondly, Trajectory 17 (n= 12), which, despite the partial noticing of solutions in the model, led to drawbacks in the children's revised texts and missed opportunities to fill gaps in their L2 knowledge. Although to a lesser extent, Trajectory 14a, also led to drawbacks (n=5) when children deleted linguistic and ideational content from their revised texts whenever solutions to unreported problems were unavailable in the feedback. It should be noted that occasionally, deletions could also lead to improvements, when this involved eliminating L1 lexis and linguistic errors to upgrade

their revised texts. This was the case with Trajectory 5a (5 improvements and 3 drawbacks) and Trajectory 7a (2 improvements and 4 drawbacks)

Effects of instruction on the children's use of trajectories

Having identified the language-learning potential inherent to the trajectories used during the multi-stage task in terms of the association between language-related problems, the noticing of solutions and the impact of these attentional processes on the children's written output, the effects of (a) instruction and (b) proficiency on their deployment were examined.

In order to strengthen the claim concerning the language-learning potential of the trajectories, a closer examination was made of how the six most frequently used trajectories involving more and less learning potential (as identified from the frequency counts outlined in Table 20) were implemented by both the teaching and non-teaching groups (see Figure 7). These included the LLLP trajectories T14a, 10 and 17, and the MLLP Trajectories 3, 12 and 20b.

Trajectory use in the teaching group

Looking firstly at the teaching group, in cycle 1 before instruction, the use of trajectories with less and more potential for learning was fairly evenly balanced. As such, the children mainly showed the unhelpful tendency to repeat their original output even when noticing solutions in the model (T10, n= 10) or to simply delete problems when solutions were unavailable in the feedback (T14a, n=4). However, they were also able to notice and incorporate solutions to linguistic problems (T12, n= 7) together with new input from the model (T3, n= 4), although they did not use the feedback at this point to find alternative expressions for their own solved problems (T20b, n= 0).

In cycle 2, after the six-week instructional period, there was an increase in the use of all three trajectories with more language-learning potential (T3, n= 6; T12, n= 11 and T20b, n= 5) and a corresponding decrease in the less useful trajectories (T14a, n= 0; T10, n= 7). Only T17 (n=1), which involved the deletion of an unreported problem, remained unchanged, although with a minimum value. This would seem to suggest that the

instructional treatment in which the children were taught how to work with model texts impacted positively on their deployment of more useful trajectories. Their increased ability to incorporate solutions to the language-related problems they had been unable to solve during the writing process and their heightened noticing of new linguistic items would, potentially at least, seem to be more likely to further their opportunities for language learning.

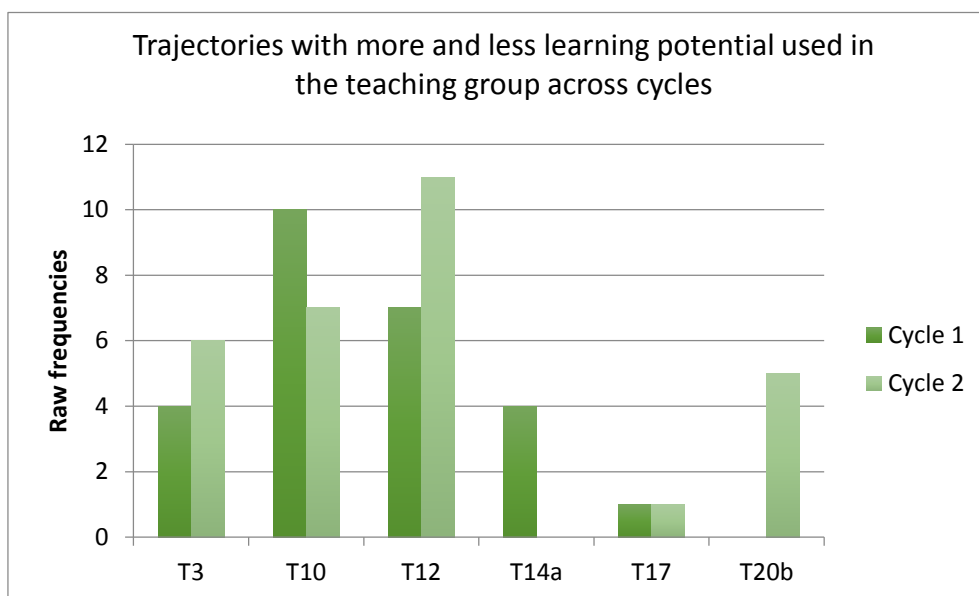


Figure 7. Trajectories with more and less learning potential used in the teaching group across cycles.

Trajectory use in the non-teaching group

The use of these same trajectories in the non-teaching group in both cycles is illustrated in Figure 8. This group did not participate in instructional sessions with the teacher; instead, they received regular English lessons over the six-week instructional period. The raw frequency counts for the use of trajectories across both cycles shows only minor changes. In both cycles 1 and 2, the children mostly used T10 (C1 n=14, C2 n=12), a trajectory with less language-learning potential, which involved deleting their original output despite noticing a solution in the model. They also used more helpful trajectories involving the noticing and incorporation of solutions to language-related problems (T12, C1 n= 8, C2 n= 6), or the noticing and uptake of new linguistic features noticed during feedback processing (T3, C1 n=2, C2 n=3).

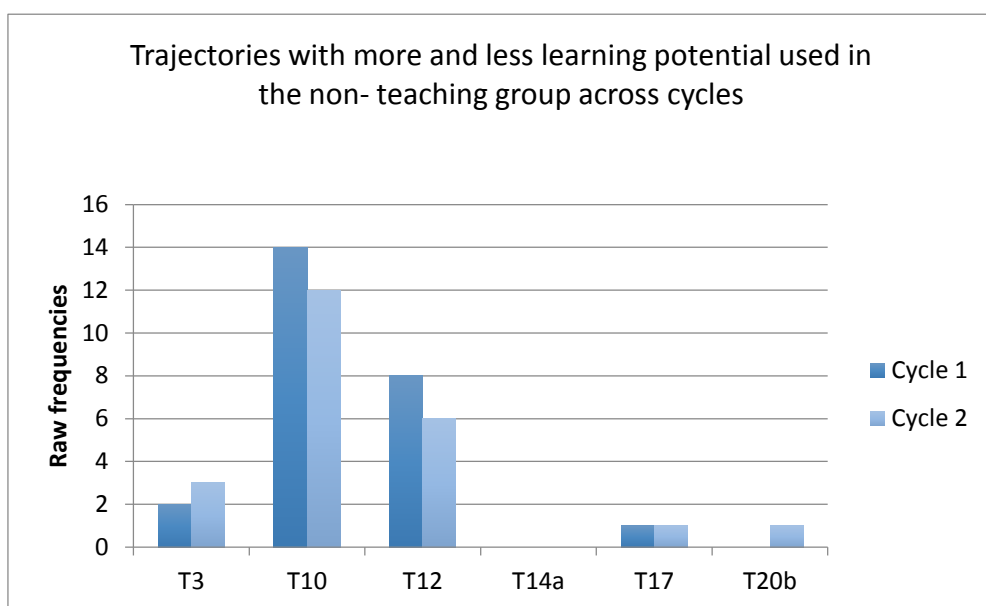


Figure 8. Trajectories with more and less learning potential used in the non-teaching group across cycles.

Across cycles, the children used fewer trajectories and maintained the same pattern of trajectory use as in cycle 1, with the less beneficial T10 prevailing over the potentially more useful T12, reversing the pattern detected in the teaching group. Some minor improvement was found in the slight increase in T3 and T20b (C1= 0, C2 n=1). In general, the results show very little variation in the trajectories followed by the children in the non-teaching group during writing and feedback analysis over time.

Trajectory use between groups in cycle 2

Further insights into the effects of instruction on the children’s use of trajectories was gained by comparing the deployment by both groups of the trajectories with more and less language-learning potential in cycle 2 after the teaching period. The results show clear differences in the most frequently used trajectories. The teaching group doubled the use of trajectories with more language-learning potential, namely T12 (TG n=11; NTG n=6), T3 (TG n=6; NTG n=3) and T20b (TG n=5; NTG n=0) in comparison with the non-teaching group, who used these trajectories much less frequently. At the same time, the non-teaching group made greater use of T10 (TG n=7; NTG n=12). By doing so, they

relied on a trajectory with less potential to further their development of new L2 knowledge.

The instructional treatment would appear, then, to have influenced the use of MLLP and LLLP trajectories in each group.

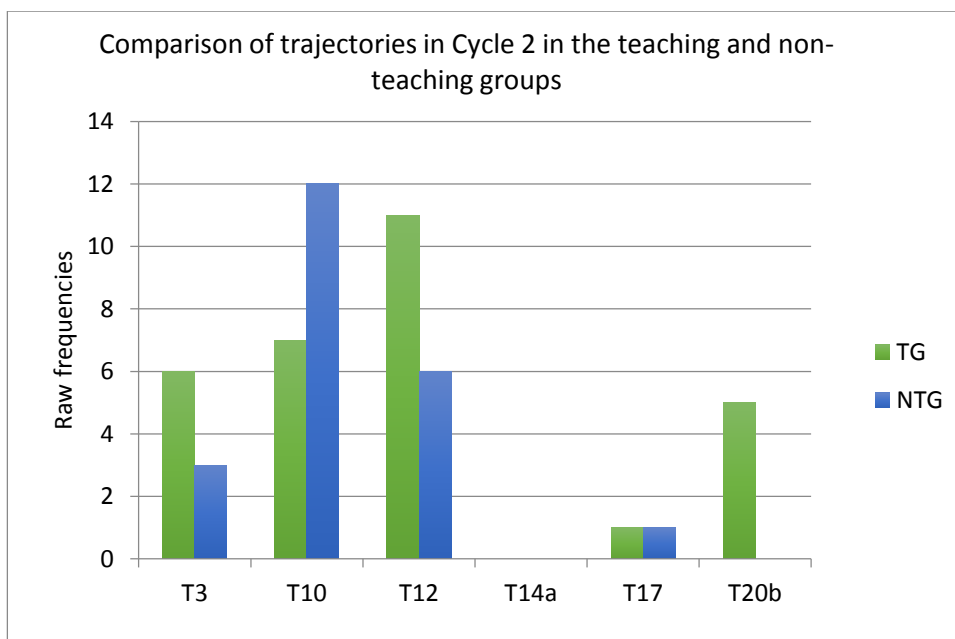


Figure 9. Comparison of trajectories in Cycle 2 in across groups.

Effects of Proficiency on the children's use of trajectories

Comparison across groups

To determine the effects of proficiency on trajectory use, an analysis was then carried out to identify the use of trajectories between learners of different proficiency levels, first globally, and then within each group. As evident in Figure 10 below, the most frequently used trajectories by learners of both proficiency levels, independently of the writing cycle, were T10 (repeating an unsolved problem despite noticing a solution in the model) with LLLP and T12 (noticing and incorporating a solution from the model to an unsolved problem) with MLLP. The LL learners used T10 (n=25) but also T12 (n=20) more frequently than the HL learners (HL, T10 n=18; T12 n=12). The fact that the LL learners used T12, a trajectory with MLLP, more than their HL peers (HL, n=12; LL, n=20) may

be due to the greater number of unsolved problems they experienced at stage 1 in comparison to the HL learners. This is corroborated by the greater use the HL learners made of other trajectories with MLLP, including T3 (HL, n= 11; LL, n=4) whereby they noticed new input in the model, and T20b (HL, n=5; LL, n= 0) by which they noticed alternatives to problems they had already solved. In this sense, their noticing from the model was not as narrowly dependent on finding tailor-made solutions to their own linguistic difficulties; instead they managed to notice and retain linguistic input above and beyond their initial output, thus taking advantage of a wider range of language options offered by the feedback. Proficiency, then, influenced the differential use of trajectories with more and less learning potential.

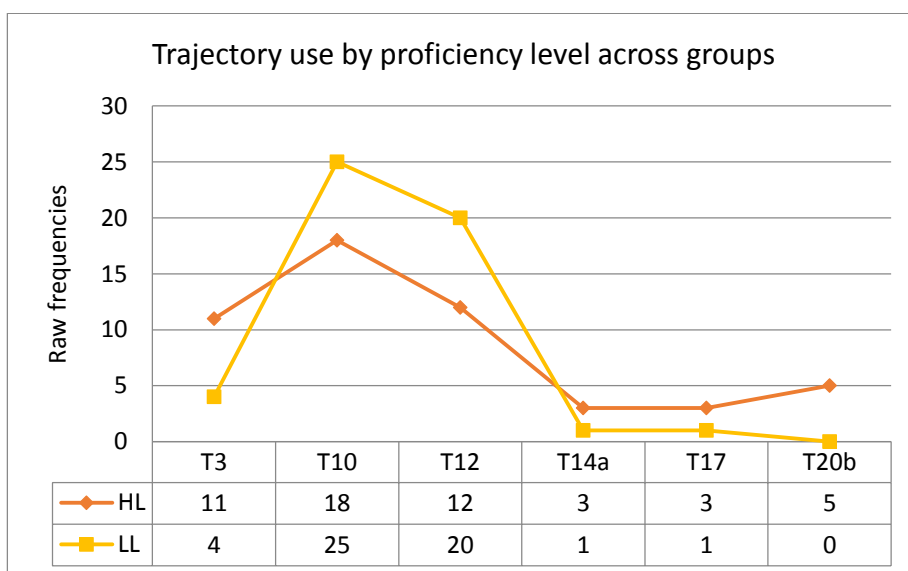


Figure 10. Global trajectory use by proficiency level across groups.

Effects of proficiency within the teaching group across cycles

The use of trajectories with more and less language learning potential in the teaching group across both writing cycles (see Figure 11) shows that once again, T10 and T12 were the most frequently trajectories used by both sets of learners in the teaching group. In the case of T10, the LLLP trajectory, there was a wider gap between the high and low proficiency children (HL, n=4; LL, n=13), with the latter using this trajectory three times as much as their HL peers, who stopped using T10 in the second cycle (C1 HL, n=4, LL, n=6; C2 HL, n=0, LL, n=7). Other less useful trajectories, both involving the deletion of

ideational content, T14a and T17, were used much less and in equal proportion (T14a, HL, n=3 LL n=1; T17, HL, n=1; LL, n=1), with T14a disappearing in cycle 2 and T17 used only once by the low proficiency children. As for the trajectories with MLLP, T12 was used twice as frequently by LL learners (T12, HL, n= 6; LL, n=12), although both proficiency levels increased the use of this trajectory across cycles (C1 HL, n=2, LL, n=5; C2 HL, n=4, LL, n=7). The opposite was true of T3 (HL, n=7; LL, n=3) and T20b (HL; n=5; LL, n=0), which were used more frequently by HL learners. HL pairs used T3 similarly across cycles, while LL learners only used this more beneficial trajectory after instruction (C1 HL, n=4, LL, n=0; C2 HL, n=3, LL, n=3). The teaching sessions seemed to have helped the LL learners to notice and subsequently incorporate new linguistic features from the model into their revised texts. Instruction also seemed to have helped the HL learners notice and incorporate alternatives from the model into their written output, as seen in their increased use of T20b in the second cycle in comparison to cycle 1 and to the LL learners who did not make use of this trajectory at all.

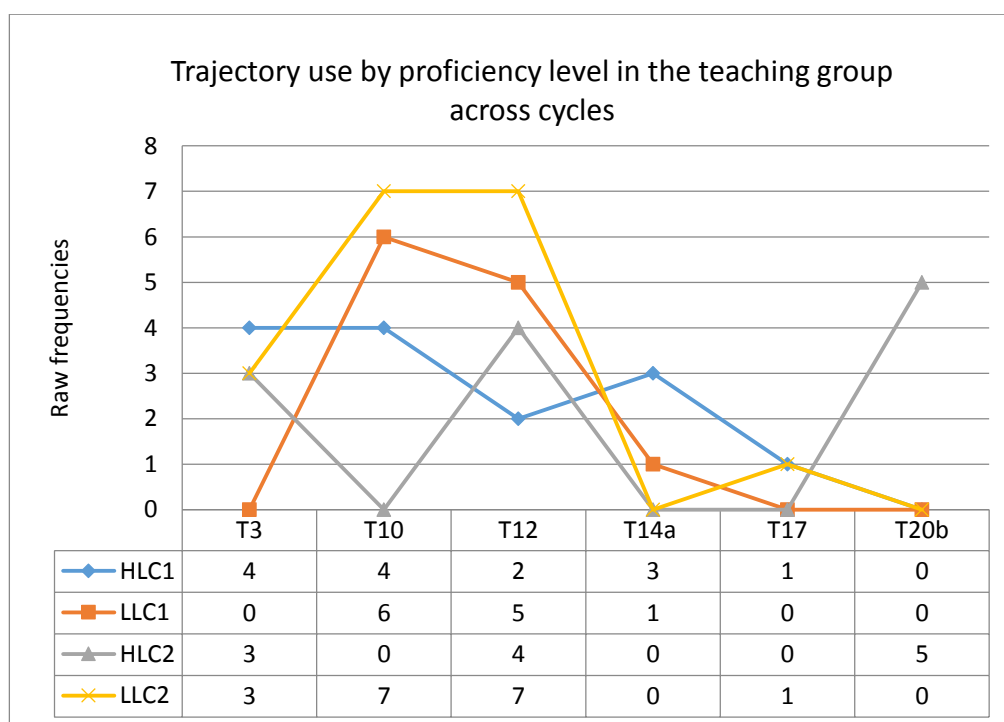


Figure 11. Trajectory use by proficiency level in the teaching group across cycles.

Effects of proficiency within the non-teaching group across cycles

In the non-teaching group (see Figure 12), the distribution pattern for the use of trajectories with both MLLP and LLLP by high and low proficiency learners was

marginally more similar than in the teaching group. There were minor differences in the use of the trajectories between pairs of different proficiency levels, with T10 (LLP) being the most frequently used trajectory by all the children in this group (T10, HL, n=14; LL, n=12). Looking first at the less beneficial trajectories, across cycles the HL learners increased their use of T10 (repetition of an unsolved problem in the revised text) while the LL learners used it less frequently (C1, HL, n=5, LL, n=9; C2 HL, n=9, LL, n=3), possibly as a result of their much lower overall use of trajectories in the second cycle. The other two trajectories with LLP (T14a and T17) were rarely used by either of the proficiency levels. T14a was used only by the LL learners in cycle 1 (HL, n=0; LL, n=1), while T17 was used only by the HL learners in both cycles (HL, n=2; LL, n=0). The second most frequently used trajectory by the children in the non-teaching group was T12, which held more MLLP (incorporation of noticed solutions in the revised texts). This trajectory was used only slightly more by the LL learners (HL, n=6; LL, n=8), although less so in the second cycle when it was used similarly by both sets of pairs (C1, HL, n=3, LL, n=5; C2 HL, n=3, LL, n=3). The last trajectory with MLLP (T3), was used more by HL learners (HL, n=4; LL n=1), as neither set of learners used T20b (HL, n=0; LL, n=0).

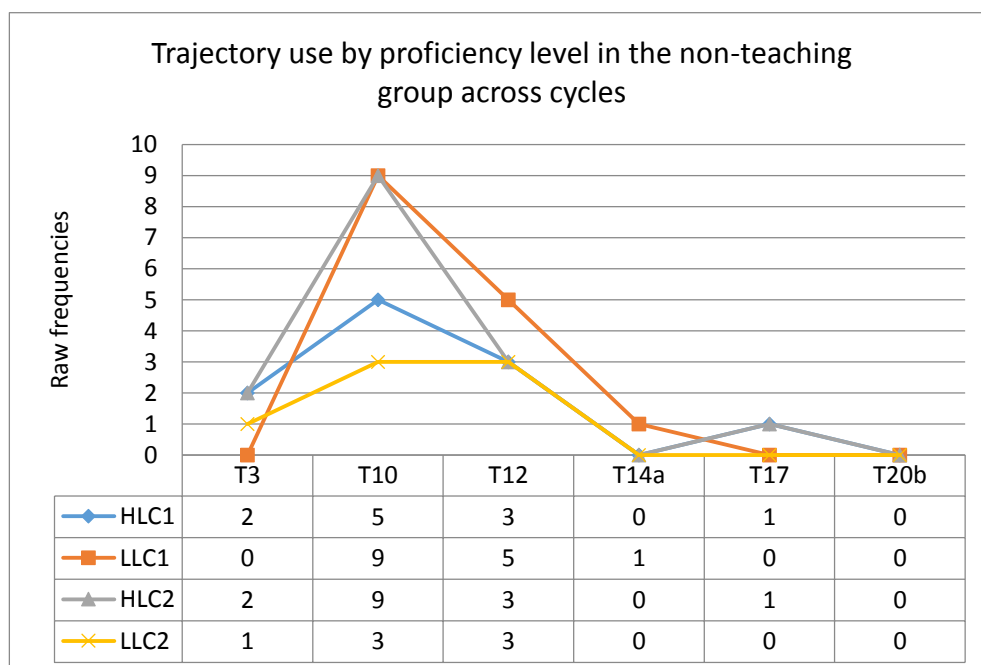


Figure 12. Trajectory use by proficiency level in the non-teaching group.

Given the distribution patterns outlined above, it would appear that the children's proficiency levels also mediated their use of trajectories with more and less-language learning potential, although perhaps to a lesser extent than the instructional treatment, since the differences between the high and low proficiency learners were wider in the teaching than in the non-teaching group.

IV.1. 3. Summary of the main findings for Research Question 1

- In examining the range of problem-solving procedures and processing alternatives available to young EFL learners working on a writing, feedback analysis and rewriting task, twenty four trajectories (and their sub-trajectories in some cases) were identified, which interconnected the learners' responses across all three stages of the multi stage task.
- The trajectories included unsolved, unreported and solved problems at stage 1 which were either solvable, partially solvable, unsolvable from feedback in the form of a model text, which also offered ideational alternatives to what was (or was not) already present in the learners' texts. These solutions were then noticed, partially noticed or unreported by the learners using different noticing strategies and at varying degrees of comprehension, all of which was either retained or partially retained, and incorporated (or not), or deleted from the learners' revised texts.
- The trajectories were distinguished in terms of their language learning potential on the grounds of the noticing processes they involved and the impact of the depth of processing on the children's retention of the feedback. Trajectories with more and less language learning potential were identified.
- The use of trajectories with more and less language-learning potential was found to be mediated by instruction as evidenced in the increase in the use of MLLP trajectories and the corresponding decrease in those with LLLP in the teaching group in comparison with the non-teaching group across cycles.
- Proficiency was also found to mediate the overall use of more and less beneficial language-learning trajectories. The margin of difference between high and low proficiency pairs in the teaching group was slightly larger than in the non-teaching group, suggesting that instruction might have enhanced the effects of proficiency.

IV.2. Results for research question 2

RQ2: How are the trajectories used by the children related to changes in the acceptability and comprehensibility of their written output? To what extent is this mediated by a) instruction and b) proficiency?

Research question two addressed the changes made to the children's written output and their relationship with the trajectories used by the children with a view to exploring how the connections between both might potentially lead to L2 development for young learners of different proficiency levels. Three sets of findings are presented in relation to this question: (i) the *raw frequencies of transitions* between different clausal units (pre-clause to proto-clause, pre-clause to clause and proto-clause to clause); within similar clausal units (pre-clause to pre-clause, proto-clause to proto-clause and clause to clause) and the deletion or addition of new clausal units; (ii) the *type and frequency of trajectories* involved in these transitions; and (iii) the *improvements, partial improvement and drawbacks* within each trajectory (see Figure 13). In all cases, the focus was on the gains in the children's textual production, that is, the transitions from a lower clausal unit to a higher one (pre-clause to proto-clause etc.). Any losses were discarded because they were almost zero. The results for each of these transitional patterns are presented below.

IV.2.1. Trajectories related to transitional patterns between different clausal units

(i) *Frequency of transitions between different clausal units*

Globally, the pattern of transitions between different clausal units was found to be highly dependent on both the children's proficiency level and on the instructional treatment. As illustrated in Table 21 below, the highest number of transitions from pre-clauses to proto-clauses (n=23) was made by low proficiency learners (LL) learners and the highest number of transitions from proto-clauses to clauses was made by the high proficiency children (HL) (n=15). The LL learners produced more than three times as many pre-clause to proto-clause transitions (n=23) as the HL learners (n=7). This pattern was reversed in the transitions from proto-clauses to clauses whereby HL learners produced three times more transitions of this type (n=15) than their LL counterparts (n=5). The number of pre-clause to clause transitions was inferior to the other two transitions (n=6), although LL learners (n=4) produced double the number of HL learners (n=2).

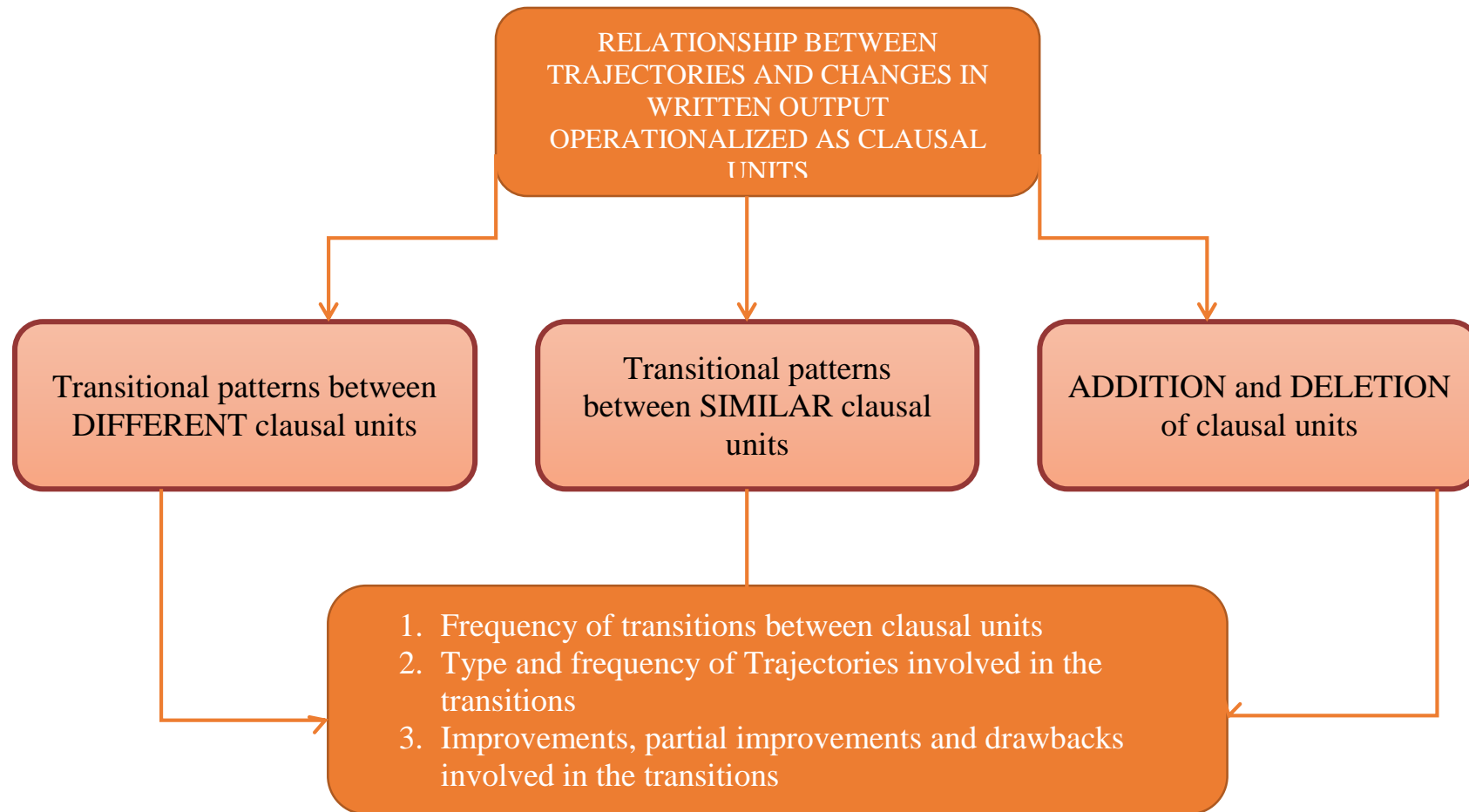


Figure 13. Analysis of Trajectories in relation to written output.

Table 21

Global raw frequencies of transition between different clausal units

	Transitions		
	PRE→PRO	PRE→CLA	PRO→CLA
HL learners	7	2	15
LL learners	23	4	5
Total	30	6	20

Code. HL learners= High level learners, LL learners= Low level learners; Pre→Pro= transition from Pre-clause in Stage 1 to Proto-clause in Stage 3; Pre→Cla: transition from Pre-clause in Stage 1 to Clause in Stage 3; Pro→Cla=transition from Proto-clause in Stage 1 to Clause in Stage 3.

When examining the different clausal transitions across cycles and groups (Table 22 below), the data indicate that at cycle 1, the low level learners in the teaching group made more pre-clause to proto-clause progressions (n=6) than other clausal transitions, and more so than the high level learners (n=1) in the same group. The same pattern was maintained in cycle 2. This finding is not surprising, since the high level pairs wrote fewer pre-clauses in both cycles than their less proficient peers.

Table 22

Raw frequencies of transitions between different clausal units by teaching group and proficiency level

TG	PRE→PRO		PRE→CLA		PRO→CLA	
	C1	C2	C1	C2	C1	C2
HL learners	1	0	1	0	3	7
LL learners	6	7	0	3	1	1
Total	7	7	1	3	4	8
NTG						
HL learners	5	1	0	1	2	3
LL learners	8	2	1	0	2	1
Total	13	3	1	1	4	4

Code. TG= Teaching Group; NTG= Non-teaching Group; HL learners= High level learners, LL learners= Low level learners; Pre→Pro= transition from Pre-clause in Stage 1 to Proto-clause in Stage 3; Pre→Cla: transition from Pre-clause in Stage 1 to Clause in Stage 3; Pro→Cla=transition from Proto-clause in Stage 1 to Clause in Stage 3; C1= cycle 1; C2= cycle 2.

Within the teaching group, the principal gains were apparent in the progression made by the high level learners from proto-clause to clausal units across cycles, improving from a total of 3 in cycle 1 to 7 in cycle 2. The low proficiency pairs showed no improvements from cycle 1 to cycle 2 in this category, although improvements were apparent at the level

of pre-clause to clause (n=3) in comparison to high-level pairs (n=0) who did not produce any pre-clauses in cycle 2.

Within the non-teaching group, the most salient pattern was the transition between pre-clausal to proto-clausal units made by both the HL and LL learners, both of whom showed a decrease in improvement across cycles from cycle 1 (HL n=5; LL n=8) to cycle 2 (HL n=1; LL n=2). This pattern contrasts with that of the LL learners in the TG whose clausal unit production did progress across cycles. Regarding pre-clause to clause transitions, only the HL children in the NTG made slight progress in cycle 2 (n=1), again in contrast to the LL learners in the TG who made greater progress (n=3). The HL learners in the NTG made similarly slight gains in the progression from pro-clause to clause (n=2; n=3), but this improvement was inferior to that of the HL pairs in the TG (n=3; n=7). These findings confirm the impact of both the instructional treatment and the proficiency level of the learners on improvements in the acceptability and comprehensibility of their written output.

(ii) Types and frequency of trajectories involved in the transitions between different clausal units

Using the teaching and the non-teaching groups as the main frame of reference, the frequency of trajectories is first analyzed as a function of their language learning potential, and then in relation to the different clausal transitions considered. Table 23 below illustrates the frequency patterns found in the both groups for trajectories involving more (MLLP) and less language learning potential (LLLP) in relation to the transitions between different clausal units across cycles. In cycle 1, all learners from the NTG used more trajectories of both kinds than their counterparts in the TG (TG: HL, MLLP=5, LLLP=3; LL, MLLP=6, LLLP=2 and NTG: HL, MLLP=10, LLLP=3; LL, MLLP=10, LLLP=10), except for HL pairs who used the same number of LLLP trajectories (n=3). However, when moving from cycle 1 to cycle 2, children in the TG doubled (HL learners from 8 to 18) and tripled (LL learners from 8 to 27) the number of transitions to higher clausal units, showing at the same time a considerable increase in the use of MLLP trajectories in order to do so (HL learners from 5 to 16; LL learners from 6 to 15). In contrast, the children in the NTG reduced by more than half the number of these transitions (HL learners from 13 to 5 and LL learners from 20 to 3) showing a marked decrease in the frequencies of their MLLP trajectories (HL learners from 10 to 3; and LL

learners similarly from 10 to 3). Considering this data collectively, it seems that instruction had some effect in helping children increase their use of trajectories with MLLP, which, in turn, enabled them to advance in the use of more complex clausal units in their written output.

Table 23

Raw frequencies of Trajectories involved in the transition to different clausal units from Stage 1 to Stage 3 within cycles

TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	PRE→PRO	PRE→CLA	PRO→CLA	Total	PRE→PRO	PRE→CLA	PRO→CLA	Total
HL learners	MLLP=2 LLLP=0	MLLP=2 LLLP=0	MLLP=1 LLLP=3	5 3	MLLP=0 LLLP=0	MLLP=0 LLLP=0	MLLP=16 LLLP=2	16 2
Total	2	2	4	8	0	0	18	18
LL learners	MLLP=5 LLLP=2	MLLP=0 LLLP=0	MLLP=1 LLLP=0	6 2	MLLP=10 LLLP=10	MLLP=2 LNLLP=2	MLLP=3 LLLP=0	15 12
Total	7	0	1	8	20	4	3	27
NON-TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	PRE→PRO	PRE→CLA	PRO→CLA	Total	PRE→PRO	PRE→CLA	PRO→CLA	Total
HL learners	MLLP=7 LLLP=3	MLLP=0 LLLP=0	MLLP=3 LLLP=0	10 3	MLLP=0 LLLP=2	MLLP=1 LLLP=0	MLLP=2 LLLP=0	3 2
Total	10	0	3	13	2	1	2	5
LL learners	MLLP=5 LLLP=10	MLLP=1 LLLP=0	MLLP=4 LLLP=0	10 10	MLLP=2 LLLP=0	MLLP=0 LLLP=0	MLLP=1 LLLP=0	3 0
Total	15	1	4	20	2	0	1	3

Code. Pre=pre-clause; Pro=Proto-clause; Cla=Clause; Pre→Pre= transition from Pre-clause in Stage 1 to Pre-clause in Stage 3; Pro→Pro: transition from Proto-clause in Stage 1 to Proto-clause in Stage 3; Cla→Cla=transition from clause in Stage 1 to Proto-clause in Stage 3. MLLP= trajectories involving more language learning potential; LLLP= trajectories involving less language learning potential.

The relationship between trajectories and clausal units would appear to be mediated both by instruction and by the children's proficiency level. It also seems likely that the benefits children obtain from instruction on how to use model texts is influenced by their level of L2 proficiency. After the instructional period, although all the pairs in the teaching group increased their use of MLLP trajectories, the nature of the clausal unit transitions was largely dependent on the children's proficiency level. Therefore, LL learners doubled the number of trajectories related to pre-clause to proto-clause transitions in cycle 2 (C1, n=5; C2, n=10) while HL learners increased the number of trajectories related to proto-clause to clausal transitions (C1, n=1; C2, n=16). However, the same progress was not evident in the non-teaching group, which decreased the number of trajectories associated to all kinds of transitions.

(iii) Frequency of improvements, partial improvements and drawbacks in the written texts in relation to Trajectories in the transitions between different clausal units

As a general pattern (see Table 24), MLLP trajectories led to a higher number of improvements and partial improvements than drawbacks. In contrast, LLLP trajectories produced either a similar number of gains or partial gains or a higher number of drawbacks. Notable differences can be observed between both groups across cycles. From cycle 1 to cycle 2, children in the NTG decreased their use of both types of trajectories that would have helped them to make progress in their use of different clausal units (HL, MLLP C1=10, C2=3; LLLP, C1=3, C2=2; LL, MLLP, C1=10, C2=3; LLLP C1=10, C2=0). In contrast, children in the TG, considerably increased their number of MLLP trajectories (HL: C1=5, C2= 16, LL: C1=6, C2=15) which helped them make a substantial number of improvements (HL, IM n=16, LL, IM n=14), thus improving the quality of the clausal units used to produce their written texts.

Table 24

Frequency of improvements, partial improvements, drawbacks in relation to Trajectories in the transitions between different clausal units

	TEACHING GROUP			
	CYCLE 1		CYCLE 2	
	MLLP IM/PIM/DR	LLLP IM/PIM/DR	MLLP IM/PIM/DR	LLLP IM/PIM/DR
HL	3/2/0	1/2/0	16/0/0	0/0/2
LL	4/2/0	0/1/1	14/1/0	0/3/8
	NON-TEACHING GROUP			
HL	3/6/1	0/1/2	3/0/0	0/1/1
LL	2/7/1	0/7/3	2/1/0	0/0/0

Code: MLLP= trajectories involving more language learning potential; LLLP= trajectories involving less language learning potential. IM= improvement; PIM= partial improvements; DR= drawback; HL= high level learners; LL= low level learners

IV.2.2. Trajectories related to the transitional patterns within similar clausal units

As in the previous section, three sets of data are presented: (i) the raw frequency of transitions within each clausal unit (pre-clauses, proto-clauses and clauses); (ii) the type and frequency of trajectories involved in these transitions; and (iii) the improvements, partial improvements and drawbacks within each trajectory.

(i) *Frequency of transitions within similar clausal units*

A global analysis of the total number of within-unit transitions (see Table 25) revealed very similar frequencies for proto-clauses and clauses (n=29 and n=30, respectively) with that of pre-clauses slightly inferior (n=23). The distribution of these transitions also appeared to be dependent on the children's proficiency level. As evident in Table 25 below, the LL learners produced almost three times as many pre-clause transitions (n=16) as the HL learners (n=6), yet when it came to the transition within clauses, the HL learners multiplied by more than four (n=25) the rate shown by the LL learners (n=5). As for proto-clauses, the number of transitions produced by each group was similar (HL, n=12;

LL, n=17). In close correspondence with these data, the high proficiency learners doubled the number of transitions within pre-clause (n=6), proto-clauses (n=12) and clauses (n=25), while the LL learners produced much fewer clauses (n=5) as compared to pre-clauses (n=16) and proto-clauses (n=17).

Table 25

Global raw frequencies of transitions within similar clausal units

	Transitions within		
	Pre-clauses	Proto-clauses	Clauses
HL learners	6	12	25
LL learners	16	17	5
Total	23	29	30

Code. HL learners= High level learners, LL learners= Low level learners.

When within pre-clause, proto-clause and clause transitions are examined by group and across cycles (Table 26 below), the data indicate that both the teaching group and the non-teaching group used this transitional pattern similarly in cycle 1 (TG, C1=24 and NTG, C1=21 respectively), although the teaching group produced almost three times fewer transitions than the non-teaching group in cycle 2 (TG, C2=9 and NTG, C2=26, respectively). This disparity can be traced to differences in the higher number of pre-clause (n=10) and proto-clause (n=10) transitions made by the non-teaching group. These differences in transitions between groups were related to the fact that the teaching group had made more pre-clause to proto-clause transitions than the non-teaching group, as ascertained in the previous section. Against the non-teaching group, in cycle 2, the teaching group no longer made pre-clausal transitions.

When each clausal-unit is looked at in detail, Table 26 below shows that HL learners in the teaching group did not make pre-clause to pre-clause transitions when producing their texts and that their LL counterparts reduced these transitions from 6 in cycle 1 to 0 in cycle 2. In contrast, the children at both levels of proficiency in the non-teaching group showed a minimal increase in pre-clause transitions across cycles: HL learners, from 2 to 3, and LL learners, from 5 to 7. It would appear that the instruction received between writing cycles might have helped LL learners in the teaching group to move beyond pre-clauses to operate exclusively within the other two clausal units.

The table also indicates that, regardless of proficiency, the children in the teaching group decreased their reliance on proto-clause transitions across cycles (from 6 occurrences in cycle 1 to 3 in cycle 2), whereas the learners in the non-teaching group slightly increased their use of these transitions (from 8 occurrences in cycle 1 to 10 in cycle 2), suggesting a further effect for instruction.

Table 26

Raw frequency of transitions within similar clausal units by teaching group and cycle

TG	PRE→PRE		PRO→PRO		CLA→CLA	
	C1	C2	C1	C2	C1	C2
HL learner	0	0	2	1	9	4
LL learners	6	0	4	2	2	3
Total	6	0	6	3	12	6
NTG						
HL learners	2	3	5	4	6	6
LL learners	5	7	3	6	0	0
Total	7	10	8	10	6	6

Code. TG= Teaching Group; NTG= Non-teaching Group; HL learners= High level learners, LL learners= Low level learners; Pre→Pre= transition from Pre-clause in Stage 1 to Pre-clause in Stage 3; Pro→Pro: transition from Proto-clause in Stage 1 to Proto-clause in Stage 3; Cla→Cla=transition from Clause in Stage 1 to Clause in Stage 3; C1= cycle 1; C2= cycle 2.

Finally, the results show that the number of transitions within clauses produced by the HL learners (n=6) in the non-teaching group was superior to that produced by the LL learners (n=0), and that this difference remained stable across cycles. Similarly, the HL learners in the teaching-group produced more within clause transitions (n=9) than the LL children (n=2) in cycle 1, although the difference was not as pronounced in cycle 2 (n=4 and n=3, respectively). These data suggest that the production of clauses across stages and cycles may be more related to the proficiency of the children than to instruction. As a whole, the findings indicate that instruction may have helped learners decrease their use of within pre-clause and proto-clause transitions, although their progress from clause to clause seems to be associated to their L2 proficiency level.

(ii) Types and frequency of trajectories involved in these transitions

As above, the frequency of trajectories is presented as a function of their language learning potential and, then, in relation to the transitions made between similar clausal units. Table 27 below illustrates the patterns in the teaching and non-teaching groups for

the frequency of trajectories involving more language learning potential and those involving less language learning potential across cycles. In general, when moving from cycle 1 to cycle 2, the children in the teaching group reduced by half the number of transitions between similar clausal units. Instead, as stated before, they relied more on transitions from lower unit to higher clausal units. Therefore, this group showed a decrease in their use of their MLLP trajectories (HL, C1=18 and C2=7; LL, C1=16 and C2=8) and LLLP (HL, C1=4 and C2=1; LL, C1=9 and C2=1) devoted to these within-clause transitions. In contrast, when moving from cycle 1 to cycle 2, both proficiency levels in the non-teaching group showed a comparable number of transitions between similar clausal units (HL learners from 19 to 19 and LL learners from 16 to 23) using a similar number of MLLP trajectories (HL, C1=11 and C2=10; LL, C1=10 and C2=13) and a slight increase in LLLP trajectories (HL C1=8 and C2=9; LL, C1= 6 and C2=10), especially for low proficiency pairs. When these data are considered together, it seems that instruction had some effect in helping the children in the teaching group maximize their efforts and move beyond smaller changes between the same clausal units to make changes involving the upgrading of lower clausal units to higher ones. The non-teaching group made less progress by comparison as they depended more on transitions within the same type of clausal units.

As for the relationship between trajectories and clausal units, no solid patterns can be identified in either group, although it should be noted that the LL children in the non-teaching group did not engage in any trajectories at clause-level, in comparison to their counterparts in the teaching group who moved from zero MLLP trajectories at clause level in cycle 1 to using three trajectories of this kind when rewriting their texts after being taught how to work more effectively with feedback. The data suggest, then, that the instruction received may have helped these children address some of their linguistic problems in a more efficient way by helping them to use more beneficial trajectories.

Table 27

Raw frequencies of Trajectories involved in the transition within clausal units from Stage 1 to Stage 3 within cycles

TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	PRE→PRE	PRO→PRO	CLA→CLA	Total	PRE→PRE	PRO→PRO	CLA→CLA	Total
HL learners	MLLP=0	MLLP=5	MLLP=13	18	MLLP=0	MLLP=3	MLLP=4	7
	LLLP=0	LLLP=2	LLLP=2	4	LLLP=0	LLLP=0	LLLP=1	1
Total	0	7	15	22	0	3	5	8
LL learners	MLLP=8	MLLP=8	MLLP=0	16	MLLP=0	MLLP=5	MLLP=3	8
	LLLP=3	LLLP=4	LLLP=2	9	LLLP=0	LLLP=1	LLLP=0	1
Total	11	12	2	25	0	6	3	9
NON-TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	PRE→PRE	PRO→PRO	CLA→CLA	Total	PRE→PRE	PRO→PRO	CLA→CLA	Total
HL learners	MLLP=2	MLLP=2	MLLP=7	11	MLLP=4	MLLP=0	MLLP=6	10
	LLLP=3	LLLP=2	LLLP=3	8	LLLP=3	LLLP=5	LLLP=1	9
Total	5	4	10	19	7	5	7	19
LL learners	MLLP=5	MLLP=5	MLLP=0	10	MLLP=5	MLLP=8	MLLP=0	13
	LLLP=5	LLLP=1	LLLP=0	6	LLLP=6	LLLP=4	LLLP=0	10
Total	10	6	0	16	11	12	0	23

Code. Pre=pre-clause; Pro=Proto-clause; Cla=Clause; Pre→Pre= transition from Pre-clause in Stage 1 to Pre-clause in Stage 3; Pro→Pro: transition from Proto-clause in Stage 1 to Proto-clause in Stage 3; Cla→Cla=transition from Clause in Stage 1 to Clause in Stage 3 MLLP=trajectories involving More Language Learning Potential; LLLP= trajectories involving Less Language Learning Potential.

(iii) Frequency of Improvements, partial improvements and drawbacks in relation to Trajectories

One of the patterns to emerge in the relationship between trajectory type and changes in the revised texts (see Table 28 below) shows that MLLP trajectories led to a higher number of improvements and partial improvements than drawbacks and deletions. In contrast, LLLP trajectories produced either a similar or a higher number of drawbacks. In these transitions between similar clausal units, there were fewer differences in the number of improvements (TG: HL, 6, LL, 5; NTG: HL, 8, LL, 6), as in the case of transitions between *different* clausal units (see section I.V. 2.1 above). This makes sense since, by definition, when dealing with similar clausal units, the improvements made are not good enough to move from an inferior clausal unit to a superior one.

Table 28

Frequency of improvements, partial improvements and drawbacks in relation to Trajectories in the transitions within similar clausal units

	TEACHING GROUP			
	CYCLE 1		CYCLE 2	
	MLLP, IM/PIM/DR	LLLP, IM/PIM/DR	MLLP, IM/PIM/DR	LLLP, IM/PIM/DR
HL	9/6/3	0/0/0	6/1/0	0/0/1
LL	10/4/2	0/1/1	5/2/1	0/0/0
NON-TEACHING GROUP				
HL	11/3/0	0/4/5	8/1/0	0/0/4
LL	6/1/1	0/1/4	6/6/1	0/0/4

Code: MLLP= trajectories involving more language learning potential; LLLP= trajectories involving less language learning potential. IM= improvement; DR= drawback; PIM= partial improvements; HL= high level learners; LL= low level learners

IV.2.3. Trajectories related to the transition patterns of deletion and addition of clausal units

Three types of data are presented below: (i) the raw frequency of deletion and addition transitions (deletion; pre-clause→x, proto-clause→x and clause→x. Addition; x→pre-clause, x→proto-clause and x→clause); (ii) the type and frequency of trajectories involved in these transitions; and (iii) the improvements, partial improvements and drawbacks within each trajectory.

(i) Frequency of deletion and addition transitions

An overall view of the deletion transitions (see Table 29) shows that all learners, independently of their proficiency level, deleted a higher number of pre-clauses (n=10) than proto-clauses (n=6) and clauses (n=1) in their transitions between texts. This finding is encouraging as pre-clauses are the least acceptable of the clausal units.

Table 29

Global raw frequencies of deletion transitions

	Deletion Transitions		
	Pre-clauses	Proto-clauses	Clauses
HL learners	6	4	0
LL learners	4	2	1
Total	10	6	1

Code. HL=High level learners; LL=Low level learners

Globally considering the addition of clausal units, (see Table 30 below) HL learners incorporated six times more clauses (n=12) than LL learners (n=2). The former did not incorporate any pre-clauses in their transitions (n=0) in contrast to the LL learners (n=4). Therefore, the type of clausal units learners incorporated in their texts seemed to be dependent on proficiency level.

Table 30

Global raw frequencies of addition transitions

	Addition Transitions		Clauses
	Pre-clauses	Proto-clauses	
HL learners	0	4	12
LL learners	4	4	2
Total	4	8	14

Code. HL=High level learners; LL=Low level learners

When accounting for the frequency of deletions by group across cycles (Table 31) the data indicates that in cycle 1 the teaching group deleted a total of 8 clausal units (4 pre-clauses, 3 proto-clauses and 1 clause) and the non-teaching group a total of 5 clausal units (3 pre-clauses and 2 proto-clauses) in their transitions. However, in cycle 2, the TG reduced their deletion transitions (from 8 to 1) and the NTG continued to delete a similar number of clausal units (from 5 to 3). Children from the NTG may have deleted more clausal units than children from the TG to avoid problems that they were unable to solve. It is also possible that the instructional treatment enabled the children from the TG to incorporate solutions that allowed them to either maintain their clausal units or to transform them into better ones rather than deleting problematic clauses.

Table 31

Raw frequencies of deletion transitions by teaching-related group and cycle

	PRE → X		PRO → X		CLA → X	
	C1	C2	C1	C2	C1	C2
TG						
HL learners	4	1	3	0	0	0
LL learners	0	0	0	0	1	0
Total	4	1	3	0	1	0
NTG						
HL learners	0	1	0	1	0	0
LL learners	3	1	2	0	0	0
Total	3	2	2	1	0	0

Code. TG= Teaching Group; NTG= Non-teaching Group; HL learners= High level learners, LL learners= Low level learners; Pre → X= transition from Pre-clause in Stage 1 to no clausal unit in Stage 3; Pro → X: transition from Proto-clause in Stage 1 to no clausal unit in Stage 3; Cla → X=transition from Clause in Stage 1 to no clausal unit in Stage 3; C1= cycle 1; C2= cycle 2.

When considering the frequencies of additions by teaching group and cycle (Table 32 below), the data indicate that in cycle 1, both groups added a similar number of pre-clauses (TG, 1; NTG; 1), and proto-clauses (TG, 4; NTG; 3) while the TG added more

clauses to their texts than the NTG (TG, 6; NTG; 2), especially the HL learners (HL, 5; LL, 1). In cycle 2, the same pattern prevailed with learners in the TG incorporating more clauses than the NTG (TG, 5 clauses; NTG, 1 clauses). In both groups and cycles, only the LL learners incorporated new pre-clauses into their revised texts (TG, C1: 1; C2: 1 and NTG, C1:1; C2:1). The additions of clausal units seemed, therefore, to be closely related to their proficiency level.

Table 32

Raw frequencies of addition transitions by group and cycle

	X→PRE		X→ PRO		X→ CLA	
	C1	C2	C1	C2	C1	C2
TG						
HL learners	0	0	2	0	5	4
LL learners	1	1	2	1	1	1
Total	1	1	4	1	6	5
NTG						
HL learners	0	0	2	0	2	1
LL learners	1	1	1	0	0	0
Total	1	1	3	0	2	1

Code. TG= Teaching Group; NTG= Non-teaching Group; HL learners= High level learners, LL learners= Low level learners; X→Pre= transition from no clausal unit in Stage 1 to Pre-clause in Stage 3; X→Pro: transition from no clausal unit at Stage 1 to Proto-clause in Stage 3; Cla→X=transition from Clause in Stage 1 to no clausal unit in Stage 3; C1= cycle 1; C2= cycle 2.

(ii) Types and frequency of trajectories involved in these transitions

The tables below (Tables 33 and 34) show the most relevant data related to the frequency of trajectories involving more language learning potential (MLLP trajectories) and those involving less language learning potential (LLP trajectories) across groups and cycles. As expected, all LLP trajectories led to deletions of clausal units and all MLLP trajectories led to the addition of new clausal units, independently of group, cycle and proficiency level.

Table 33

Raw frequencies of Trajectories involved in the deletion transitions of clausal units from Stage 1 to Stage 3 within cycles

TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	Pre→X	Proto→X	Cla→X	Total	Pre→X	Proto→X	Cla→X	Total
HL learners	MLLP=0	MLLP=0	MLLP=0	0	MLLP=0	MLLP=0	MLLP=0	0
	LLL=4	LLL=3	LLL=0	7	LLL=0	LLL=0	LLL=0	0
LL learners	MLLP=0	MLLP=0	MLLP=0	0	MLLP=0	MLLP=0	MLLP=0	0
	LLL=0	LLL=0	LLL=1	1	LLL=3	LLL=2	LLL=0	5
NON-TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	Pre→X	Proto→X	Cla→X	Total	Pre→X	Proto→X	Cla→X	Total
HL learners	MLLP=0	MLLP=0	MLLP=0	0	MLLP=0	MLLP=0	MLLP=0	0
	LLL=1	LLL=0	LLL=0	1	LLL=1	LLL=1	LLL=0	2
LL learners	MLLP=0	MLLP=0	MLLP=0	0	MLLP=0	MLLP=0	MLLP=0	0
	LLL=0	LLL=0	LLL=0	0	LLL=1	LLL=0	LLL=0	1

Code. Pre=pre-clause; Pro=Proto-clause; Cla=Clause; Pre→X= transition from Pre-clause in Stage 1 to no clause in Stage 3; Pro→X: transition from Proto-clause in Stage 1 to no clausal unit in Stage 3; Cla→X=transition from Clause in Stage 1 to no clausal unit in Stage 3. MLLP=trajectories involving more language learning potential; LLL= trajectories involving less language learning potential; HL=High level learners; LL=Low level learners.

Table 34

Raw frequencies of Trajectories involved in the addition transitions of clausal units from Stage 1 to Stage 3 within cycles

TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	X→Pre	X→Pro	X→Cla	Total	X→Pre	X→Pro	X→Cla	Total
HL learners	MLLP=0	MLLP=2	MLLP=5	7	MLLP=0	MLLP=0	MLLP=4	4
	LLL=0	LLL=0	LLL=0	0	LLL=0	LLL=0	LLL=0	0
LL learners	MLLP=2	MLLP=1	MLLP=1	4	MLLP=1	MLLP=1	MLLP=0	2
	LLL=0	LLL=0	LLL=0	0	LLL=0	LLL=0	LLL=0	0
NON-TEACHING GROUP								
	CYCLE 1				CYCLE 2			
	X→Pre	X→Pro	X→Cla	Total	X→Pre	X→Pro	X→Cla	Total
HL learners	MLLP=0	MLLP=2	MLLP=2	4	MLLP=0	MLLP=0	MLLP=1	1
	LLL=0	LLL=0	LLL=0	0	LLL=0	LLL=0	LLL=0	0
LL learners	MLLP=2	MLLP=2	MLLP=0	4	MLLP=1	MLLP=0	MLLP=0	1
	LLL=0	LLL=0	LLL=0	0	LLL=0	LLL=0	LLL=0	0

Code. Pre=pre-clause; Pro=Proto-clause; Cla=Clause; X→Pre= transition from no clausal unit in Stage 1 to Pre-clause in Stage 3; X→Pro: transition from no clausal unit in Stage 1 to Proto-clause in Stage 3; X→Cla=transition from no clausal unit in Stage 1 to Clause in Stage 3. MLLP=trajectories involving more language learning potential; LLL= trajectories involving less language learning potential; HL=High level learners; LL=Low level learners.

(iii) *Frequency of improvements, partial improvements and drawbacks in relation to Trajectories (deletion and addition transitions)*

As shown in Table 35 below, the deletion of clausal units connected to LLLP trajectories usually leads to losses in the children’s texts since they involve a higher number of drawbacks than improvements and partial improvements. This is because the children delete L2 language and ideational content from their original texts when they are unable to solve their problems (TG, C1: HL, 5 DR /2 IM /0 PIM; LL, 1DR, 0 IM/0 PIM) independently of the group, cycle and proficiency level (NTG, C1: LL, 4DR/1 IM/0 PIM, C2: HL, 1DR/1 IM/0 PIM; LL, 1 DR/0 IM/0 PIM). Nevertheless, on other occasions these deletions can represent improvements (e.g. TG, C2: HL, 1 IM/ 0 PIM/ 0 DR) when children delete errors or L1 words in their written output thus upgrading the quality of their texts.

Table 35

Frequency of improvements, partial improvements and drawbacks in relation to Trajectories (deletion transitions)

	TEACHING GROUP			
	CYCLE 1		CYCLE 2	
	MLLP, IM/PIM/DR	LLLP, IM/PIM/DR	MLLP, IM/PIM/DR	LLLP, IM/PIM/DR
HL	—	2/0/5	—	1/0/0
LL	—	0/0/1	—	—
	NON-TEACHING GROUP			
HL	—	—	—	1/0/1
LL	—	1/0/4	—	0/0/1

Code: MLLP= trajectories involving more language learning potential; LLLP= trajectories involving less language learning potential. IM= improvement; DR= drawback; PIM= partial improvements; HL= high level learners; LL= low level learners

In contrast to the results for clausal unit deletions, when children added units into their texts, they did so using MLLP trajectories (Table 36 below) with a superior number of improvements and partial improvements than drawbacks. When children took the risk of adding new clausal units into their writing, there were more gains than losses in both

groups because they included new content and L2 language which contained more improvements and partial improvements than errors or drawbacks, thus, upgrading the length and quality of their written texts. However, in the TG, all the learners produced more improvements and partial improvements than the NTG (TG: HL, 3/4 and 2/2, NTG: HL, 1/3 and 1/0; TG: LL, 0/4 and 1/2, NTG: LL, 0/0 and 0/0), which would seem to be associated to the effects of instruction and their better use of the model as a feedback technique.

Table 36

Frequency of improvements, partial improvements and drawbacks in relation to Trajectories (Addition transitions)

TEACHING GROUP				
	CYCLE 1		CYCLE 2	
	MLLP, IM/PIM/DR	LLLP, IM/PIM/DR	MLLP, IM/PIM/DR	LLLP, IM/PIM/DR
HL	3/4/0	—	2/2/0	—
LL	0/4/0	—	1/2/1	—
NON-TEACHING GROUP				
HL	1/3/0	—	1/0/0	—
LL	0/0/2	—	0/0/1	—

Code: MLLP= trajectories involving more language learning potential; LLLP= trajectories involving less language learning potential. IM= improvement; DR= drawback; PIM= partial improvements; HL= high level learners; LL= low level learners

IV.2.4. Summary of Findings for Research Question 2

Trajectories related to the transition patterns between different clausal units:

- The pattern of transitions between different clausal units was found to be dependent on the children's proficiency level and on the instructional treatment. HL learners made more transitions to clauses while LL learners made more transitions to proto-clauses. In the non-teaching group, the number of transitions to higher-level clauses either declined for LL learners or only slightly increased for HL learners in comparison to the teaching group who made more overall improvements.
- In cycle 1, all learners used a similar number of LLLP and MLLP trajectories regardless of group and proficiency level. In cycle 2 instruction was found to be useful in helping children of both proficiency levels in the teaching group increase their use of MLLP trajectories, enabling them to make more improvements which supported the progression to more acceptable clausal units in their revised texts.
- The children in the teaching group increased their use of MLLP trajectories across cycles, which led to the introduction of more improvements in their written texts. The non-teaching group used both types of trajectories less frequently and therefore had fewer improvements and ultimately less progress.

Trajectories related to the transition patterns between the same clausal units:

- Transitions between the same clausal units were dependent on proficiency and instruction. In general, HL learners in both groups used a greater number of clausal transitions than their LL peers who remained at the level of pre-clause. Instruction was found to influence the transitions between lower clausal units since the teaching group reduced their transitions between pre-clauses and proto-clauses in cycle 2, whereas for the non-teaching group they increased. Transitions within clauses were more frequent for the higher proficiency children in both groups, suggesting a possible influence of proficiency.
- Instruction was also important in helping children of both proficiency levels in the teaching group reduce the number of LLLP trajectories in cycle 2, in comparison with pairs in the non-teaching group who increased this type of trajectory.

Trajectories related to the transition patterns: deletion and addition of clausal units:

- All learners deleted a higher number of pre-clauses than proto-clauses or clauses regardless of proficiency. However, addition was highly dependent on proficiency level with HL learners incorporating more clauses and LL learners more pre-clauses.
- Deletions were similar across groups in cycle 1, while in cycle 2 the non-teaching group deleted more than the teaching group. It is possible that instruction helped children from the TG to use the feedback to solve their initial problems and improve their clausal units rather than deleting them
- Additions of clausal units were similar across groups in cycle 1, while in cycle 2 the teaching group incorporated more clauses. Only LL learners incorporated pre-clauses in both groups and cycles while HL learners incorporated more clauses, thus confirming the relationship between the addition of clause types and proficiency level.
- Trajectories with LLLP led to the deletion of clausal units while those with MLLP led to more additions, regardless of group and proficiency level
- Deletions resulting from LLLP trajectories led to drawbacks in children's texts independently of group and proficiency level. On the contrary, additions were linked to an increase in improvements and partial improvements, particularly in the teaching group.

IV.3. Results for research question 3

RQ3: Is there evidence of second language development in the children's written output as a result of exposure to model texts? If so, is this mediated by instruction and/or proficiency?

The third research question aimed to explore whether evidence of progress in the development of the children's L2 knowledge might be identifiable in their written output as a result of their exposure to models as a feedback technique, and if so, whether this might be influenced by the instructional treatment some pairs experienced as well as by their proficiency levels. In order to answer this question we analyzed the participants' original and revised written texts in both cycles using a number of parameters including: (i) the mean number of words and error ratios (n° linguistic errors/total n° words \times 10); (ii) the means of the types of clausal units in the written texts (pre-clauses, proto-clauses and clauses); (iii) the means of the specific changes implemented from the original to the revised texts (improvements, partial improvements and drawbacks) and their relationship to the model and (iv) the production of certain lexical, morphosyntactic and discursive features. In what follows, we describe the written products produced by high level and low level learners in the teaching and non-teaching groups according to each parameter mentioned above. This will be followed by a synthesis of the results.

IV.3.1. Means of number of words and error ratios

Table 37 below, contains information about the mean number of words and error ratios in the learners' original and revised texts within and across cycles, groups and proficiency levels, which will be detailed in the following lines.

Table 37

Means of the number of words and error ratios in the original and revised texts across cycles, groups and proficiency levels

Group / level	Cycle 1				Cycle 2				
	Original C1S1		Revised C1S3		Original C2S1		Revised C2S3		
	N° Words	*Error ratio	N° Words	Error ratio	N° Words	Error ratio	N° Words	Error ratio	
TG	HL	83	2.3	86	1.6	51	2.1	56	0.6
	LL	60	4	70	3.6	41	3.8	58	2.5
NTG	HL	70	2.7	76	2.5	53	3.7	46	2.5
	LL	60	5.4	59	5.2	42	6.7	40	4.8

Code. TG= Teaching group; NTG=Non-teaching group; HL learners= High level learners, LL learners= Low level

learners; C1S1=Cycle 1, Stage 1; C1S3=Cycle 1, Stage 3; C2S1=Cycle 2, Stage 1; C2S3=Cycle 2, Stage 3;

Error ratio (n° linguistic errors/total n° words x 10)

Teaching group high level learners, Cycle 1

The original stage 1 narratives produced by HL pairs in cycle 1 comprised a mean of 83 words. In these initial texts, the pairs made, on average, 19 errors, so that their error rate (n° linguistic errors / total n° words x 10) was 2.3 [Error rate: (19/83) x10 = 2.3]. The revised texts in stage 3 consisted of 86 words (on average), 3 words more than the original texts (C1S1 n=83; C1S3 n=86). The texts had a mean of 14 errors (5 less than in the original), with an error rate of 1.6 [(14/86) x10 = 1.6], which was lower than the 2.3 ratio at stage 1. Therefore, when rewriting their texts at stage 3, HL pairs produced slightly longer and more accurate stories.

Teaching group, high level learners, Cycle 2

The original texts produced at the first stage of cycle 2 had a mean of 51 words, 32 words less than their first texts at stage 1, cycle 1 (83 words). In total, they committed an average of 11 errors, with an error rate of 2.1 [Error rate: (11/51) x10 = 2.1], that is, they wrote slightly more accurate texts than in their original text in cycle 1 whose error ratio was 2.3. In this second cycle, the revised texts contained a mean of 56 words, 5 words longer than the stage 1 narratives (51). The pairs only made an average of 3 errors, so that their error rate was 0.6 [Error rate: (3/56) x10 = 0.6], which was appreciably lower than in the stage 1 where the ratio had been 2.1. That is to say, they wrote substantially more accurate and almost error-free texts.

Teaching group, low level learners, Cycle 1

The original texts produced by low-proficiency pairs in cycle 1 comprised a mean of 60 words with an average of 24 errors, so that their error rate was 4 [Error rate: $(24/60) \times 10 = 4$]. In the rewriting stage 3, the pairs' texts consisted of 70 words on average, 10 words longer than their original texts (C1S1 n=60). The texts had a mean of 25 errors, with an error rate of 3.6 [$(25/70) \times 10 = 3.6$], which was slightly lower than the 4 ratio at stage 1. Therefore, when rewriting their texts at stage 3, LL pairs produced longer and slightly more accurate texts.

Teaching group, low level learners, Cycle 2

The texts produced at the first stage of cycle 2 had a mean of 41 words, 19 words less than their original texts at stage 1, cycle 1 (60 words). On average, the learners committed 17 errors, with an error rate of 3.8 [$(17/46) \times 10 = 3.8$], that is, they wrote slightly more accurate texts than in the same stage of cycle 1 whose error ratio was 4. The revised texts contained a mean of 58 words, 17 words longer than the stage 1 narratives (41). The pairs made an average of 15 errors, so that their error rate was 2.5 [$(15/58) \times 10 = 2.5$], which was appreciably lower than in the original texts in this second cycle where the ratio had been 3.8. That is to say, in stage 3 of cycle 2, LL learners wrote considerably longer and more accurate texts.

Non-teaching group, high level learners, Cycle 1

The original stage 1 texts produced by high level pairs in cycle 1 had a mean of 70 words and an average of 19 errors, so that the error rate was 2.7 [Error rate: $(19/70) \times 10 = 2.7$]. In stage 3, the revised texts, on average, consisted of 76 words, 6 words more than the original texts (C1S1 n=70). The texts had a mean of 19 errors with an error rate of 2.5 [$(19/76) \times 10 = 2.5$], which was slightly lower than the 2.7 ratio at stage 1. Therefore, when rewriting their texts at stage 3, HL pairs produced slightly longer, more accurate texts.

Non-teaching group, high level learners, Cycle 2

In cycle 2, stage 1, the HL learners' texts had a mean of 53 words, 17 words less than their texts at stage 1, cycle 1 (70 words). In total, they committed an average of 20 errors, with an error rate of 3.7 [$(20/53) \times 10 = 3.7$], that is, they wrote a shorter and less accurate text than in cycle 1 whose error rate was 2.7. At stage 3, the revised texts comprised a

mean of 46 words, 7 words shorter than the stage 1 narratives (53). However, the pairs only made 12 errors, so that their error ratio was 2.5 $[(12/46) \times 10 = 2.5]$, which was lower than in the original stage 1 text where the ratio had been 3.7. That is to say, in stage 3 of cycle 2, the high level pairs wrote a shorter but more accurate text. However, in comparison to stage 3 of cycle 1, the revised text at cycle 2 was no better in accuracy than the revised text in the previous cycle since both had the same error ratio (2.5). Therefore, they did not improve in terms of accuracy across cycles.

Non-teaching group, low level learners, Cycle 1

The original stage 1 texts produced by LL pairs in cycle 1 comprised a mean of 60 words. In these initial texts, the pairs made an average of 32 errors, so that their error rate was 5.4 [Error rate: $(32/60) \times 10 = 5.4$]. On average, the revised texts in stage 3 consisted of 59 words, 1 word less than the original text (C1S1 n=60). The texts had a mean of 31 errors, with an error rate of 5.2 $[(31/59) \times 10 = 5.2]$, which was similar to 5.4 error ratio at stage 1. Therefore, the revised texts at stage 3, were similar in terms of length and accuracy.

Non-teaching group, low level learners, Cycle 2

The original texts in this cycle had a mean of 42 words, 18 words less than their first texts at stage 1, cycle 1 (60 words). In total, they committed an average of 28 errors, with an error rate of 6.7 $[(28/42) \times 10 = 6.7]$, that is, they wrote less accurate texts than in cycle 1 whose error rate was 5.4. In cycle 2, stage 3, the revised texts had a mean of 40 words, 2 words less than the stage 1 narratives (42). The pairs made an average of 19 errors, so that their error rate was 4.8 $[(19/40) \times 10 = 4.8]$, which was lower than in the original stage 1 texts where the ratio had been 6.7. That is to say, in stage 3 of cycle 2, the pairs wrote slightly shorter but more accurate texts. Across cycles, however, the gains in accuracy were small.

Synthesis of the findings on the accuracy of the children's written output

In what follows, attention will be paid to the length and error ratios of the children's texts at different points in time in order to examine (i) The initial effects of the model text on the accuracy of the children's writing by comparing C1S1 and C1S3; (ii) The effects of instruction on the writing of a new text by comparing C1S3 and C2S1 and, finally, (iii)

the accumulated effects of exposure to the model after the instructional period will be analyzed by looking at C2S1 and C2S3.

(i) The short-term effects of exposure to the model text

Within the first writing cycle, from C1S1 to C1S3, all pairs, regardless of group, wrote longer (or almost identical in the case of the LL pairs in the NTG) and more accurate texts after analysing the feedback, as shown in Table 37 by the decrease in error ratio (TG, HL: 2'3→1'6, LL: 4→3'6; NTG, HL: 2'7→2'5, LL: 5'4→5'2) and the increase in the number of words (TG, HL: 83→86, LL:60→70; NTG, HL: 70→76, LL:60→59).

(ii) The effects of instruction on the writing of a new text

Differences between text length and error ratios at C1S3 and C2S1 were taken to provide evidence for the effects of instruction on the writing of a new text. Table 37 indicates that all learners in both groups reduced the number of words in the first stage of cycle 2 (TG, HL: 86→51, LL: 70→41; NTG, HL: 76→53, LL: 59→42). However, this table also shows that the increase in the error ratio by both proficiency groups in the teaching condition (HL: 1,6 →2,1; LL: 3,6 →3,8) was lower than the increase shown by their counterparts in the non-teaching condition (HL: 2,5→ 3,7; LL: 5,2 →6,7). This finding seems to indicate that, in spite of the passage of time, the TG children at both proficiency levels managed to maintain a similar degree of accuracy to what they had achieved after receiving feedback in cycle 1, which was not the case with the NTG children.

(iii) The accumulated effects of exposure to the model after instruction

Finally, the comparison of the length of the children's texts and error ratios between C2S1 and C2S3 (Table 37) showed that children in both proficiency groups and conditions reduced their error ratios from one stage to the other. However, this decrease was not homogeneous since (i) the HL children in the teaching group increased the length of their revised texts (51→56) and reached a higher degree of accuracy after receiving feedback following instruction than all the other pairs in both groups (C2S3=0.6); (ii) the LL children in the teaching group also produced longer texts (41→58) and substantially reduced their error ratio (3,8 →2,5) to reach a similar degree of accuracy at C2S3 as the

HL children in the non-teaching condition (3,7 → 2,5) who wrote shorter texts (53→46); (iii) the LL in the non-teaching group, although producing a more accurate revised text, continued to have the highest error ratio at both stages of cycle 2 (6,7 →4,8) and wrote their shortest text at stage 3 (42→40). These data seem to indicate that the instructional period in which the teaching group children were trained in the use of model texts in the had a cumulative effect on their feedback processing allowing them to produce longer and more accurate texts than the children who had not received any instruction.

The overall results indicate that improvements in the accuracy of the children's written output as measured by text length and error ratios were mediated in the short-term by exposure to the model text. However, in the second writing cycle, the learners who attended the teaching period made fewer errors on new pieces of writing than the learners who did not. The guidance received during the teaching period on how to use models, together with the practice in doing so, helped the TG children increase the accuracy of their written texts across cycles. Moreover, the positive effect of instruction proved to be durable; it was retained over 3 months until cycle 2. Although to a lesser extent, the results were also mediated by the children's proficiency levels, since the margin of improvement in accuracy was different between the pairs in the TG: although the LL pairs after the teaching period considerably reduced their error ratios (C1S3, 3.6; C2S3, 2.5) the HL pairs managed to write almost fully correct texts (C2S3, 0.6).

IV.3.2. Means and types of clausal units

The means and the types of clausal units produced by the learners in the original and revised texts across cycles, groups and proficiency levels are shown in Table 38 and reported below.

Table 38

Means of the types of clausal units in the original and revised texts across cycles, groups and proficiency levels

		CYCLE 1							
GROUP	LEVEL	TOTAL UNITS		PRE-CLAUSES		PROTOCLAUSES		CLAUSES	
		Original C1S1	Revised C1S3	Original C1S1	Revised C1S3	Original C1S1	Revised C1S3	Original C1S1	Revised C1S3
TG	High	13	13	3	0	5	6	5	7
	Low	11	12	6	4	3	6	2	2
NTG	High	12	13	4	1	3	7	5	5
	Low	13	11	9	3	4	6	0	2
		CYCLE 2							
GROUP	LEVEL	TOTAL UNITS		PRE-CLAUSES		PROTOCLAUSES		CLAUSES	
		Original C2S1	Revised C2S3	Original C2S1	Revised C2S3	Original C2S1	Revised C2S3	Original C2S1	Revised C2S3
TG	High	8	9	0	0	5	1	3	8
	Low	8	9	5	1	2	5	1	3
NTG	High	9	9	3	2	4	3	2	4
	Low	9	9	5	5	4	4	0	0

Code. TG= Teaching group; NTG=Non-teaching group; C1S1=Cycle 1, Stage 1; C1S3=Cycle 1, Stage 3; C2S1=Cycle 2, Stage 1; C2S3=Cycle 2, Stage 3;

Teaching group, high level learners, Cycle 1

The original stage 1 texts produced by HL pairs in cycle 1 had an average of 13 linguistic units: 3 pre-clauses, 5 proto-clauses and 5 clauses. In the revised texts in stage 3, the total number of clausal units remained the same (n=13) with 0 pre-clauses, 6 proto-clauses and 7 clauses. The number of pre-clauses was reduced to 0 (C1S1 n=3; C1S3 n=0), while the number of proto-clauses (C1S1 n=5; C1S3 n=6) and clauses increased (C1S1 n=5; C1S3 n=7). Therefore, when rewriting their texts at stage 3, HL pairs produced slightly more acceptable and comprehensible stories.

Teaching group, high level learners, Cycle 2

In cycle 2, stage 1, the pairs reduced the number of clausal units from 13 to 8, but used more complex ones than in the same stage of cycle 1, reducing their use of pre-clauses from 3 to 0, while the number of proto-clauses remained the same (C1S1 n=5; C2S1 n=5), and the number of clauses was slightly lower (C1S1 n=5; C2S1 n=3). In stage 3 of cycle

2, high level pairs increased the total number of clausal units from 8 to 9 units. The revised texts did not contain any pre-clauses, as in the original text, had fewer proto-clauses (C2S1 n=5; C2S3 n=1), and a considerably higher number of clauses (C2S1 n=3; C2S3 n=8). Therefore, the revised texts at stage 3 of the second writing cycle showed an increase in acceptability and comprehensibility.

Teaching group, low level learners, Cycle 1

In cycle 1, the stage 1 the narratives produced by LL pairs comprised an average of 11 linguistic units: 6 pre-clauses, 3 proto-clauses and 2 clauses. At stage 3, the revised texts analysis revealed a mean of 12 linguistic units; 4 pre-clauses, 6 proto-clauses and 2 clauses. The number of pre-clauses was reduced (C1S1 n=6; C1S3 n=4), while the number of proto-clauses increased (C1S1 n=3; C1S3 n=6) and clauses remained the same (C1S1 n=2; C1S3 n=2). Therefore, when rewriting their texts at stage 3, LL pairs produced longer and slightly more acceptable texts.

Teaching group, low level learners, Cycle 2

In this second cycle, at stage 1 the pairs reduced the number of clausal units from 11 to 8, in comparison with stage 1 cycle 1, reducing their use of pre-clauses (C1S1 n=6; C2S1 n=5), proto-clauses (C1S1 n=3; C2S1 n=2), and clauses (C1S1 n=2; C2S1 n=1). Nevertheless, in the revised texts, they increased the number of clausal units from 8 to 9 units, producing a more acceptable text by reducing the number of pre-clauses (C2S1 n=5; C2S3 n=1) and increasing the number of proto-clauses (C2S1 n=2; C2S3 n=5), and clauses (C2S1 n=1; C2S3 n=3).

Non-teaching group, high level learners, Cycle 1

The original stage 1 texts produced by HL pairs in cycle 1 had a mean of 12 linguistic units: 4 pre-clauses, 3 proto-clauses and 5 clauses. The revised texts in stage 3, on average, consisted of an average of 13 linguistic units; 1 pre-clause, 7 proto-clauses and 5 clauses. The number of pre-clauses from the original texts was reduced (C1S1 n=4; C1S3 n=1), while they wrote more proto-clauses (C1S1 n=3; C1S3 n=7) and the same number of clauses (C1S1 n=5; C1S3 n=5). Therefore, when rewriting their texts at stage 3, HL pairs produced slightly more acceptable and comprehensible texts.

Non-teaching group, high level learners, Cycle 2

In the original texts produced in cycle 2, HL learners used fewer clausal units, n=9, (3 Pre-clauses, 4 Proto-clauses and 2 clauses) than in the same stage of cycle 1, n=12, (4 Pre-clauses, 3 Proto-clauses and 5 clauses), reducing their use of pre-clauses (C1S1 n=4; C2S1 n=3), increasing the number of proto-clauses (C1S1 n=3; C2S1 n=4), and reducing the number of clauses (C1S1 n=5; C2S1 n=2). Regarding the clausal units in the revised texts, they were slightly more acceptable (2 pre-clause, 3 proto-clauses, 4 clauses) than in the original text (3 pre-clauses, 4 proto-clauses and 2 clauses), reducing the number of pre-clauses (C2S1 n=3; C2S3 n=2) and proto-clauses (C2S1 n=4; C2S3 n=3) and increasing the number of clauses (C2S1 n=2; C2S3 n=4).

Non-teaching group, low level learners, Cycle 1

In cycle 1, the original stage 1 texts produced by LL pairs had a mean of 13 linguistic units: 9 pre-clauses, 4 proto-clauses and 0 clauses. The revised texts in stage 3, on average, consisted of 11 linguistic units, 2 units less than in the original; 3 pre-clauses, 6 proto-clauses and 2 clauses. The number of pre-clauses from the original text was lower (C1S1 n=9; C1S3 n=3), while the proto-clauses increased (C1S1 n=4; C1S3 n=6), as well as the number of clauses (C1S1 n=0; C1S3 n=2). Therefore, when rewriting their texts at stage 3, LL pairs produced shorter but more acceptable and comprehensible stories.

Non-teaching group, low level learners, Cycle 2

In stage 1, cycle 2, the pairs used 9 linguistic units, 3 less than in the same stage of cycle 1, reducing their use of pre-clauses from 9 to 5, while the number of proto-clauses and clauses remained the same (proto-clauses: C1S1 n=4; C2S1 n=4. clauses: C1S1 n=0; C2S1 n=0). In this second cycle, there was no improvement in the acceptability of the pairs' texts since they wrote the same type of clausal units: 5 pre-clauses, 4 proto-clauses and 0 clauses in the original and in the revised texts.

Synthesis of the findings on the acceptability and comprehensibility of the children's written output

As previously, this section reports the main findings as regards: (i) The initial effects of the model on the acceptability of the clausal units in the children's written output by comparing the type of units produced by each group at C1S1 and C1S3; (ii) The effects of instruction on the acceptability of a new written text by comparing the clausal units of both groups at C1S3 and C2S1 and, (iii) Finally, the cumulative effects of feedback after the instructional period by looking at the clausal units of the groups at C2S1 and C2S3.

i) The initial effects of the model on the acceptability and comprehensibility of written output

At stage 1 in cycle 1 (Table 38), all pairs regardless of group and proficiency level, produced a similar number of total clausal units (TG: HL, n=13, LL, n=11; NTG: HL, n=12, LL, n=13). HL learners relied mainly on proto-clauses and clauses (TG, HL: 3 pre-clauses, 5 proto-clauses and 5 clauses and NTG, HL: 4 pre-clauses, 3 proto-clauses and 5 clauses). However, LL learners relied mainly on pre-clauses and less on proto-clauses and clauses (TG, LL: 6 pre-clauses, 3 proto-clauses and 2 clauses and NTG, LL: 9 pre-clauses, 4 proto-clauses and 0 clauses). In the revised texts in stage 3, all the pairs continued to write a similar amount of linguistic units as in the original texts (TG: HL, n=13, LL, n=12; NTG: HL, n=13, LL, n=11). All the pairs in both groups, after comparing their text with the model reduced the number of pre-clauses (TG: HL 3→0, LL 6→4; NTG: HL 4→1, LL 9→3) increased the number of proto-clauses (TG: HL 5→6, LL 3→6; NTG: HL 3→7, LL 4→6) and maintained or slightly increased the number of clauses (TG: HL 5→7, LL 2→2; NTG: HL 5→5, LL 0→2). In other words, all learners, regardless of group or proficiency level improved the acceptability and comprehensibility of their revised texts after exposure to the model text.

(ii) The effects of instruction on the complexity of a new text

When comparing the children's texts at C1S3 and C2S1, Table 38 shows that after the instructional period (devoted only to the teaching group), all learners in both groups reduced the number of linguistic clauses in their texts (TG, HL: 13→8, LL: 12→8; NTG,

HL: 13→9, LL: 11→9). All pairs also reduced the acceptability of the clausal units from the revised text in cycle 1 to the original texts in cycle 2. All the learners increased their use of pre-clauses except for the HL pairs in the TG (TG: HL 0→0, LL 4→5; NTG: HL 1→3, LL 3→5), and reduced the number of proto-clauses (TG: HL 6→5, LL 6→2; NTG: HL 7→4, LL 6→4) and clauses (TG: HL 7→3, LL 2→1; NTG: HL 5→2, LL 2→0). However, the loss was less pronounced in the teaching group than in the non-teaching group, as the TG pairs reduced the use of more acceptable units to a lesser extent and wrote fewer pre-clauses than the non-teaching group pairs.

(iii) The accumulated effects of exposure to the model after instruction

Finally, the comparison of clausal units between C2S1 and C2S3 showed that in cycle 2 (Table 38), the children in the teaching group improved the type of clausal units used in their revised texts, producing more acceptable units after comparing their original texts with a model. This improvement was not at the same level for both proficiency pairs in the TG, HL learners improved their writing from proto-clauses to clauses (HL, pre-clauses: 0→0, proto-clauses: 5→1 and clauses: 3→8) and LL pairs progressed from pre-clauses to proto-clauses (LL, pre-clauses: 5→1, proto-clauses: 2→5 and clauses: 1→3). However, LL learners in the non-teaching group did not improve the type of clausal units they used; LL learners wrote exactly the same type of units from one stage to another (pre-clauses: 5→5, proto-clauses: 4→4 and clauses 0→0) and HL learners used similar ones (pre-clauses: 3→2, proto-clauses: 4→3 and clauses 2→4).

These data seem to indicate that instruction may have helped the pairs in the teaching group become more receptive and better disposed to cognitively process the model text, thus enabling them to improve the degree of linguistic acceptability and comprehensibility of their revised written output. The changes the TG pairs made into their texts after analysing the model led to a progression from simpler to more complex clausal units depending on their proficiency level. In the next section, we will examine the specific changes children made in their texts.

IV.3.3. Means of the improvements, partial improvements and drawbacks in the revised texts and their relation to the model

The means of the specific changes the children made to their revised texts: improvements (a change or addition by which a clausal unit is improved), partial improvements (a change that slightly improves the original clausal unit without being fully correct) and drawbacks (a change that diminishes the quality of the clausal unit), and their relation to the model (MM=matches the model, PMM=partially matching the model, NMM=does not match the model) are illustrated in Table 39 below.

Teaching group high level learners, Cycle 1

In writing their revised texts in cycle 1, the HL pairs produced a mean of 22 changes from their original output after comparing their text to the model, slightly improving their original text, since they made a greater number of improvements (n=8) and partial improvements (n=9) than drawbacks (n=5). Half of the improvements and partial improvements coincided with the model, while the other half (n= 9 MM, 8 NMM) and the 5 drawbacks did not (n=5NMM).

Teaching group high level learners, Cycle 2

In cycle 2, when rewriting their text, HL learners in the TG made an average of 16 changes to their original text; 13 improvements, 2 partial improvements and 1 drawback, considerably improving their rewritten text at cycle 2. Given that the majority of the changes they made, 12 out of 16, were related to the model, we may state that this pair benefitted from the teaching period, and in this second cycle, from the model text which impacted positively on improvements in their written output.

Teaching group low level learners, Cycle 1

In cycle 1, LL learners in the TG produced a mean total of 17 changes in their revised texts. They upgraded their original texts by making more improvements (n=7) and partial improvements (n=6) than drawbacks (n=4). More than half of the changes coincided with the model (n=8; 4MM and 4 PMM) and the other half did not (n=9 NMM).

Teaching group low level learners, Cycle 2

In cycle 2, low level pairs in the TG carried out an average of 20 total changes to their original text; 10 improvements, 4 partial improvements and 6 drawbacks, thus improving their original text in cycle 2. Taking into account that 9 out of 10 improvements, and 3 of the 4 partial improvements, were related to the model, while all the drawbacks were unrelated to the model, the gains made by the LL pairs seemed to have been thanks to the better use they made of the model after the teaching period.

Non-teaching group high level learners, Cycle 1

In the first cycle, when producing their revised texts, the high level pairs in the NTG made a mean total of 20 changes from their original output, including; 6 improvements, 8 partial improvements and 6 drawbacks, thus marginally improving their revised texts. Half of these improvements and partial improvements were related to the model (n= 7) while the other half (n= 7) and the drawbacks were not (n=6). These HL pairs relied on their own resources as much as the model to improve their texts.

Non-teaching group high level learners, Cycle 2

In the second cycle, the HL pairs in the NTG made a total of 13 changes to their revised texts in stage 3, of which 7 were improvements, 3 partial improvements and 3 drawbacks. Half of the gains (4 improvements and 1 partial improvement) matched the model while the remaining five were unrelated to the model. In other words, the pairs improved their original texts by continuing to draw on their own resources as well as the model.

Non-teaching group low level learners, Cycle 1

When rewriting their text in cycle 1, LL learners in the NTG produced a mean total of 21 changes from their original stage 1 output; 4 improvements, 10 partial improvements and 7 drawbacks, thereby marginally upgrading their texts. Nine changes coincided with the model (3 improvements and 6 partial improvements), while the remaining 5 did not. The 7 drawbacks were unrelated to the model.

Non-teaching group low level learners, Cycle 2

In cycle 2, stage 3, LL learners in the NTG made a total of only 9 changes on average in their revised texts; 3 improvements, 3 partial improvements and 3 drawbacks, which only slightly modified the quality of their revised texts. Around half of these changes coincided

with the model (2 MM, 2 PMM) and half did not (5NMM). These pairs improved their original texts by relying on their own resources as well as the model.

Synthesis of the findings on the changes in the children's revised texts

In what follows, attention will be paid to the influence of the model text on the children's written output by analyzing (i) the short-term improvements and partial improvements made by each group to their revised texts at the rewriting stage of cycle 1 (C1S3) and (ii) the accumulated effects of instruction and exposure to the model at the rewriting stage of cycle 2 (C2S3).

(i) *The short-term effects of exposure to the model text on the revised written output in cycle 1*

In cycle 1 (see Table 39 below), when rewriting their texts (C1S3), the learners in the teaching group, regardless of their proficiency level, made slightly more improvements (n= 15 in the TG and n=10 in the NTG) and fewer partial improvements (n=15 in the TG and n=18 in the NTG), and drawbacks than the non-teaching group (n=9 in the TG and n=13 in the NTG). Regarding the improvements, slightly more were related to the model in both groups (in the TG: 8 MM, 7 NMM; NTG: 6 MM, 4NMM). The same occurred with the partial improvements in this cycle (in the TG: 8 MM, 7 NMM and in the NTG: 10 MM, 8 NMM). On the contrary, all the drawbacks in both groups were unrelated to the model except for one by the LL learners in the TG. This seems to indicate the positive effects of model texts on the specific changes learners made in their revised texts, which led to a greater proportion of improvements and partial improvements than drawbacks.

(ii) *The accumulated effects of instruction and exposure to the model text on the children's written output*

In cycle 2 (C2S3), however, all learners in the teaching group made more than double the improvements (n=23) of the learners in the non-teaching group (n=10) when rewriting their texts (see Table 39). Both high and low proficiency pairs in the teaching group doubled the number of improvements in relation to their counterparts in the non-teaching group (HL learners in the TG, n=13 and in the NTG, n=6; LL learners in the TG, n=10

and in the NTG, n=4). Furthermore, the majority of these changes were related to the model (19 out of 23). As far as partial improvements, are concerned both groups made the same number of changes (n=6). Nevertheless, in the TG, the majority of these changes partially matched the model (n=5) while in the NTG half of them were associated with the model (n=3) and half were not (n=3). In relation to the drawbacks, both groups made a similar number (TG, n=7; NTG, n=6) and none of them were related to the model.

From all of this, it seems that instruction played an important role in influencing the type of changes learners made in their revised texts, leading to triple the amount of improvements and slightly more partial improvements related to the model in the teaching group pairs. Considering the children's proficiency level, no notable differences were found in relation to the *number* of changes that HL and LL learners made in their texts either between or within groups. All the learners in the teaching group seemed to be able to take advantage of the model to make some improvement in their writing after the instructional period.

Next, we will briefly describe the main features of the children's original and revised texts in both cycles in an attempt to provide evidence of potential progress in the L2 development of the different proficiency pairs in both groups.

Table 39

Means of specific changes: improvements, partial improvements and drawbacks (MM, PMM, and NMM) across cycles and groups

TEACHING GROUP																	
CYCLE 1 (C1S3)								CYCLE 2 (C2S3)									
IM		PIM		DR				Total	IM		PIM		DR				Total
MM	NMM	PMM	NMM	PMM	NMM	MM	NMM		PMM	NMM	PMM	NMM					
HL	4	4	5	4	0	5	22	10	3	2	0	0	1	16			
LL	4	3	3	3	1	3	17	9	1	3	1	0	6	20			
Total	8	7	8	7	1	8	39	19	4	5	1	0	7	36			
	15	15	9	39	23	6	7	36									
NON-TEACHING GROUP																	
HL	3	3	4	4	0	6	20	4	3	1	2	0	3	13			
LL	3	1	6	4	0	7	21	2	1	2	1	0	3	9			
Total	6	4	10	8	0	13	41	6	4	3	3	0	6	22			
	10	18	13	41	10	6	6	22									

Code: HL= high level learners; LL= low level learners; IM= improvement; PIM= partial improvements; DR= drawback MM= match the model, PMM= partially match the model; NMM=not match model

IV.3.4. The linguistic features of the written texts

In what follows, we describe some of the distinctive features of the children's texts at different points in time in what refers to their use of lexis, morphology and discourse in order to ascertain: (i) The initial effects of the model on the linguistic characteristics of the children's revised written output by comparing their texts at C1S1 and C1S3; (ii) The effects of instruction on writing of a new text by describing the characteristics of texts produced at C2S1 and, (iii) Finally, the cumulative effects of feedback after the instructional period by looking at the linguistic features of the revised texts at C2S3. Examples taken from the children's written output and their collaborative dialogues during the feedback processing task are then included to illustrate the use of trajectories with different language learning potential.

Teaching group, high level learners (Cycle 1)

In the initial stage of cycle 1, both HL pairs in the TG (See Appendix 2), included the main lexical items necessary to tell the story (e.g. 'witch', 'sandwich'/'cookie' 'orange juice', 'cat', 'bat') and one or two temporal discourse markers (P1: 'After', 'Mientras' [while] and 'entonces' [then]. P2: 'but when', 'but before'. Regarding morphology and syntax, evidence from the stage 1 texts showed consistent use of the morpheme -ing (e.g. P1: 'sleeping'; P2: 'drinking'), the definite article 'the', as in 'The witch', 'The bat'. However, there was inconsistent use of the indefinite article (e.g. P1: one idea; P2: 'a black night', 'a orange juice'), the 'be auxiliary' (P2: 'Willy's eats a cookie' and 'she ^drinking ^orange juice') and the inflectional 3rd person -s verb form (P1: The witch live in the castle; The black bat wakes up; P2 'The witch looks to the cat', 'She put the juice').

In cycle 1, stage 3, the revised texts produced by HL pairs in the TG (See Appendix 5) contained some new lexis (e.g. P1: 'white'; P2: 'castle') and a discourse marker (e.g. P1: 'then') from the model. Considering morphology and syntax, these pairs continued using the -ing morpheme (e.g. P1: 'the cat eating the sandwich'), the definite article 'the' (P1: 'the bat', P2: 'the cat'). In this stage personal pronouns were now included (P1: 'She ^dinner one sandwich and ^juice') and a possessive adjective from the model (P1: 'The witch ^dinner in *her* castle.'). However, as in the original texts, there was still inconsistent use of the indefinite articles (e.g. P1 'She dinner *one* sandwich'; P2: '*a* sandwich' '*a* orange juice'), the 'be auxiliary' (e.g. P1: 'the cat ^eating'; P2: 'the witch

is^dinner') and the inflectional 3rd person –s verb form (e.g. P1: 'the witch look', 'The bat wakes up'; P2: 'a cat drinks the juice', 'the cat eat cookie').

Teaching group, high level learners (Cycle 2)

In cycle 2, after the instructional period, the original texts produced by HL pairs (See Appendix 15) included the some of the main lexis required to tell the story (e.g. P1/2: 'dog', 'cat' 'potion') and some discourse phrases (e.g. P1: Once upon a time; P2: One day), although both pairs experienced difficulties expressing the main character 'scientist' (P1 'scientific'; P2 'science man'). No L1 elements now featured in the texts. In relation to grammar, the –ing morpheme (e.g. P1: sleeping) and the definite article 'the' (e.g. P1: 'the dog'; P2: 'the potion') were used as in the previous cycle. The indefinite article was used more consistently by both pairs (e.g. P1: 'a dog'; P2: 'a science room'). Possessive adjectives were also included (e.g. P2: 'in *his* left hand'). However, errors related to the 'be copula' (e.g. P1: 'the scientific *it's* crazy'), the 'be auxiliary' (e.g. P1: 'the dog ^sleeping') and inconsistent use of the 3rd person –s (e.g. P1: 'The scientific *turns* into cat!', 'the scientific *drink* a potion'; P2: 'He *drink* it') continued to prevail.

In their revised texts in cycle 2, HL learners (See Appendix 17) not only improved lexical problems (P1/2 'scientist') but also introduced better alternatives from the model (e.g. P1: 'gets up' → 'wakes up'; P2: 'science room' → 'laboratory', 'punch' → 'attack'). They also incorporated appropriate temporal discourse phrases from the model (P1: One day, suddenly, finally), or incorporated causal and temporal connectors (P2: 'because', 'now') from the models they had been exposed to during instruction (see Appendix 12). Rather than simply describing the pictures, the children now tried to write a story with a beginning, a middle and an ending, as they had been taught to do during the teaching period (for example: P1: 'One day, the scientist is in his laboratory. Suddenly, the scientist turns into a cat. Finally, the dog attacks the cat.'; P2 A day a scientist, he is in his laboratory. ... The dog go to attack him. The end). Furthermore, they now used the 'be copula' (P1: 'the scientist *is* crazy'; P2: 'He *is* in his laboratory') in sentences taken from the model. Definite articles (P1 and P2: *the* scientist, *the* dog), indefinite articles (P1: Suddenly, the scientist turns into *a* cat!; P2: 'a good effect'), personal pronouns (P1: He looks; P2: 'He is very excited') and possessive adjectives (P1: 'the scientist is in *his* laboratory'; P2: '*His* head got a lot of light') were used more accurately. Only two

grammatical aspects continued to be used inconsistently the ‘be auxiliary’ (P1: ‘his dog ^sleeping on the table’) and the 3rd person –S (P2: ‘The potion *haven’t* got a good effect.’).

Teaching group, low level learners (Cycle 1)

In stage 1, cycle 1, the LL learners’ output (See Appendix 2), included basic content words in the L2 (e.g. P3/P4: cat and bat) but also some L1 words (e.g. P3: ‘de’ [of]; P4: ‘tiene’ [has], ‘hace’ [does], ‘una’ [a] and no temporal discourse markers. They also had problems with the spelling of lexis that was essential for telling the story such as ‘whitch’ [witch], ‘sanwhitch’ [sandwich] (Pair 3), or ‘oranje’ [orange], (Pair 4). Regarding morphosyntactic features, either the ‘be auxiliary’ was used inconsistently to tell the story (P3: ‘The cat is drinking’; ‘The cat eating’) or nominal content words followed by lexical verbs with no inflectional markers connected with ‘and’ (P4: ‘Witch dinner ^sandwich and ^oranje juice’ or ‘and cat drink ^oranje juice’). Only P3 used definite articles, while P4 introduced one personal pronoun. Indefinite articles were not used by either of the pairs.

At stage 3, when revising their text (See Appendix 5), LL learners in the TG replaced their L1 words (P4: ‘Se da cuenta’ → ‘observes’) or partially included new lexis (P3: ‘wihte’ [white], ‘the night’ [at night]). They also solved some spelling problems using the model (P3: Sanwhich→Sandwich; sliping→ sleeping). However, very little discursive and grammatical modifications were apparent, except for definite article (P3: whitch→the whitch) and personal pronoun additions (P4: Cat drink→ He drink).

Teaching group, low level learners (Cycle 2)

In cycle 2, after the teaching period, the original texts produced by LL pairs (See Appendix 15) contained basic content words in the L2 (e.g. P3/P4: ‘cat’, ‘dog’, ‘look’) and L1 lexis (e.g. P3: ‘pocima’ [potion]; ‘con’ [with]; P4: ‘poción’ [potion]). Both pairs had problems with the spelling of essential vocabulary such as ‘cientific’ [scientist], ‘slipping’ [sleeping] (P3), or ‘esleeping’ [sleeping], (P4). Nevertheless, they now made an attempt at using temporal markers (P3: ‘sadelli’, ‘fynally’; P4: ‘one day’), which had been absent from their texts before the teaching period. As for morphosyntactic features, the –ing morpheme was still used (e.g. P3: ‘drinking’; P4: ‘jumping’), as well as verbs in the past tense (P3 ‘invented’; ‘herd’) together with bare lexical verbs (P3 ‘wake up’; P4

‘transform’, ‘get up’). The definite article was used frequently but not always accurately (P3: ‘The sadelli’; P4: ‘He drinks poción the dog is sleeping’).

In the revised texts in cycle 2 (See Appendix 17), LL pairs now included solutions from the model for their lexical holes (P3: pocima → potion, P4: pocion → potion) and new words they had noticed (P3: ‘next’; P4: ‘laboratory’), using the L1 only once (P3: ‘cae’ [falls down]; P4: ‘mala’ [bad]). The pairs were also able to solve many of their spelling problems (P3: ‘slipping’ → ‘sleeping’; ‘fynally’ → ‘finally’; P4: ‘cientific’ → ‘scientist’, ‘esleping’ → ‘sleeping’) and incorporated temporal discourse markers (P3: ‘One day’; P4: ‘suddely’, ‘finally’). Regarding morphosyntactic features, LL learners continued using the –ing morpheme (e.g. P3: ‘drinking’; P4: ‘sleeping’) and definite articles (e.g. P3: ‘the scientist’; P4: ‘the laboratory’) in their revised texts. Use of the 3rd person –s slightly improved (e.g. P3: ‘the dog attaks’; P4: ‘the dog wakes up’), while the ‘be auxiliary’ was used inconsistently (P3 ‘dog sleeping on the table; P4 ‘the scientist sploting’). Indefinite articles emerged for the first time. (e.g. P3: ‘The scientist hear *a* boom!’)

Non-teaching group, high level learners (Cycle 1)

In their original texts’ in cycle 1 (See Appendix 2), both the HL pairs in the NTG used the main content words (P1/2: ‘witch’, ‘cat’, ‘bat’, ‘toast’/‘sawadwich’ [sandwich]) ‘milk’, ‘juice’) to describe the pictures. P2 also used L1 words such as ‘mira’ [looks] and only P1 used a temporal discourse marker (‘now’). In relation to morphology and syntax, they used the –ing morpheme (P1: ‘sleeping’; P2: ‘eating’) and the definite article ‘the’ (P1: ‘*the* witch’; P2: ‘*the* bat’) consistently. However, the ‘be auxiliary’ (P1: ‘the bat is sleeping’, ‘The witch is look the cat’; P2: ‘the cat it’s eat’), the indefinite article ‘a/an’ (P1: ‘the witch has *a* idea’) and the inflectional 3rd person –s verb form (P1: ‘the cat look the milk’, ‘the witch has a idea’; P2: ‘the bat go to bed’) were used inconsistently at this point.

At stage 3 (See Appendix 5), HL learners included new lexis in their revised texts, both related (P1: ‘black’, ‘white’; P2: ‘it night’ [at night]) and unrelated to the model (P1: ‘milk’ → ‘glass of milk’; P2: ‘get up’). Spelling problems were solved using the model (P2: ‘sawadwich’ → ‘sandwich’) and L1 words were eliminated. The same temporal discourse marker as before (‘now’) was again used by P1. In relation to morphology and syntax, the pairs included the –ing morpheme (e.g. P1: ‘eating’; P2: ‘sleeping’) and the definite article ‘the’ (e.g. P1/P2: ‘the witch’, ‘the bat’). The ‘be auxiliary’ (P1: ‘the bat is

wake up'; P2: 'the bat is sleeping'), the inflectional 3rd person –s (P1: 'In the night the witch has dinner ^sandwich and ^glass of milk.', 'The black bat look the white bat'; P2: 'the cat drink juice', 'The witch look juice.'). and indefinite articles (P1: 'The witch has an idea'; P2: 'the witch have dinner ^sandwich') were still used inconsistently.

Non-teaching group, high level learners (Cycle 2)

In cycle 2, the original texts produced by HL pairs (See Appendix 15) contained only a few of the main content words for the story (e.g. P1: 'potion'; P2: 'drink'). Others were misspelt (P1: 'slelipping'; P2: 'cientiffic'; 'poccy'). The L1 was used on several occasions (P1: 'The person is ahogando' [The person is choking]; P2: 'dolor the gargant' [sore throat]). No discourse markers were included in their texts. In relation to morphosyntactic features, the –ing morpheme (P1: 'slelipping'; P2: 'sleeping') was used but less frequently than bare lexical verbs. Definite articles (P1: '^dog look the cat'; P2: 'and dog is week up,), indefinite articles (P1: 'The ungly person has a potion'; P2: 'and ^dog is sleeping', 'The cientiffic is create ^poccy), the 'be auxiliary' (P1: 'and dog sleeping'), and the inflectional 3rd person –s morpheme (P1: 'The ungly person has a potion', P2: 'and dog look the cat') were used inconsistently.

In cycle 2, stage 3, in the revised texts (See Appendix 17), the HL pairs included some new lexis from the model (P1: 'scientist'; P2: 'laboratory') and a single temporal discourse marker (P2: 'one day'). They corrected spelling errors using the model (P1: 'Slelipping' → 'sleeping'; P2: 'cientiffic' → 'scientific'; 'poccy' → 'potion'). However, in relation to morphology and syntax, no notable progress was appreciable from their original texts except for the inclusion of the 'be copula' in two clausal units (P1: 'the cat is dead', 'he is bad').

Non-teaching group, low level learners (Cycle 1)

In stage 1, cycle 1 (See Appendix 2), like their counterparts in the TG, LL learners in the NTG included a few basic content words in the L2 (e.g. P3/P4: 'cat' 'bat': P3: 'juice' P4 'bedroom') but they also relied heavily on the L1 (e.g. P3: 've' [sees], 'se despierta' [wakes up]; P4: 'mira' [looks], 'convierte' [turns into]. They had difficulties with the spelling of essential lexical items that were required to tell the story, such as 'druink' [drinks], 'wuich' [wich] (P3) or 'wiht' [witch] 'whoter' [water] and 'sawich' [sandwich] (P4). Discourse markers were not used by either of the pairs. Both pairs used the –ing

morpheme (P3/4 'bat sleeping') once, but relied mainly on content words followed by lexical verbs without inflectional markers and one or more nouns connected with 'and' (P3 'cat mira^ juice and ^toast' or P4 'Pepa go to bedroom and bat I love a otro bat'). Definite and indefinite articles were used erratically (P3 'the bat in the despierta'; P4 'In the evening a dring whoter').

At stage 3, when revising their text (See Appendix 5), LL learners incorporated new vocabulary from the model (P3: 'orange'; P4: 'orange juice') and partially included other lexis (P3: 'sanguiw' [sandwich]), as well as correcting spelling errors (P3: 'Wuich' → 'Witch'; P4: 'idia' → 'idea'). They also replaced L1 words without using the model (P3: 've' → 'look'; P4: 'mira' → 'look') but now included others (P3: 'tiene' [has], 'hechiza' [casts a spell]). Regarding discourse and grammar, very little modifications were made except for the inclusion for the first time of personal pronouns by P3 (e.g: 'She tiene one idea.', 'She hechiza and cat').

Non-teaching group, low level learners (Cycle 2)

In cycle 2, stage 1, the original texts produced by LL pairs (See Appendix 15) included basic content words (P3: 'cat', 'drink'; P4: 'dog', 'get up') but the L1 was used frequently (P3: 'hace' [does], 'pocion' [potion]; P4: 'se convierte' [becomes]). They also had difficulties with the spelling of key lexis (P3: 'cientific' [scientist], 'sleepheng' [sleeping], P4: 'cientif' [scientist], 'luck' [looks]). As in the previous cycle, they did not use any discourse markers. As for the morphosyntactic features, the texts were mainly composed of bare lexical verbs followed by nouns combined with 'and' (P3 'Lucas in explosion hair and dog get up; P4 'Cientif invent potion and dog sleeping'). The definite article was rarely used, making the texts difficult to read.

In the revised texts in cycle 2 (See Appendix 17), LL pairs in the NTG included some solutions from the model for the lexical items they had written in L1 (P3: pocion → potion) but they continued relying on the L1 to narrate the story (P3: 'siente' [feels]; P4: 'se convirtió' [became]), as well as using invented words that were difficult to decipher (P3 'realis'; P4 'straing'). The model enabled them to partially solve some spelling problems 'cientific' → 'scientific', 'sleepheng' → 'sleeping'; P4: 'cientif' → 'scientig', 'dring' → 'drinks'. Discourse features were included, but not always correctly. P3 included the temporal phrase 'one day' although P4 finished the text with an inappropriate use of

'Finally'. Regarding morphosyntactic features, LL learners used the -ing morpheme (e.g. P3/P4: 'sleeping') and definite articles (e.g. P3: 'the potion'; P4: 'the dog'). Lastly, there was emergent use of the 3rd person -s morpheme (P3: '^Scientific drinks in the potion'; P4: 'Jose drinks ^potion').

i) The initial effects of the model on the linguistic features of written output

Considering the teaching group (see Table 40 below), when the HL learners wrote their first text in cycle 1, they used the -ing morpheme (90 %) and the definite article 'the' (92%) accurately, while the remaining features had lower accuracy percentages. After exposure to the model text, in stage 3, they made slight improvements in three of morphemes; -ing morpheme (90% → 100%), indefinite article (42% → 47%), the third person -s (45% → 57%). Only the 'be auxiliary' (50% → 50%) remained unchanged.

The LL learners from the TG group did not use any of the five morphological features accurately in their initial texts (< 90%). In their revised texts at stage 3, they made very slight improvements in the use of 3 morphemes in obligatory contexts; -ing morpheme (50% → 65%), definite article (43% → 44%) and 3rd person -s (17% → 22%) but with percentages which remained below accuracy levels. The 'be auxiliary' (50% → 50%) remained unchanged.

Considering the non-teaching group (see Table 40 below), in cycle 1, stage 1, HL learners from this group made consistent use of the -ing morpheme (90 %) and the definite article 'the' (95 %), while the other morphosyntactic features were used inconsistently (<90%). After the comparison with the model, in stage 3, they continued using accurately the -ing morpheme with a slight increase (90% → 100%) and the definite article with a slight decrease (95% → 90%). Some other features remained inconsistent with slightly lower percentages, be auxiliary (60% → 50%), indefinite articles (62% → 40%) and 3rd person -s (15% → 13%).

LL learners from the NTG did not use any of the morphosyntactic features included in their original texts in cycle 1 accurately (<90%), like their counterparts in the TG. Nevertheless, in C1S3, after the feedback, they slightly increased the use of be auxiliary (20% → 33%). However, there was also a decrease in the accurate use of the -ing

morpheme (60% →50%), definite articles (25% →20%) and indefinite articles (50% →10%). As detailed above, at the end of cycle 1, after comparing their texts with a model, all the learners, regardless of group and proficiency level, either maintained similar levels of accuracy or made only very slight progress in their use of specific morphosyntactic features. The model, therefore, had a negligible effect on advancing the children's morphological development.

Table 40

Mean of the percentage of SOC for morphosyntactic features

	TEACHING GROUP								NON-TEACHING GROUP							
	High Proficiency Learners				Low Proficiency learners				High Proficiency Learners				Low Proficiency learners			
	C1S1	C1S3	C2S1	C2S3	C1S1	C1S3	C2S1	C2S3	C1S1	C1S3	C2S1	C2S3	C1S1	C1S3	C2S1	C2S3
-ing morpheme	90	100	100	100	50	65	100	100	90	100	100	100	60	50	60	60
Be auxiliary	50	50	0	50	50	50	50	50	60	50	50	50	20	33	0	50
Definite article 'the'	92	91	90	100	43	44	63	82	95	90	82	70	25	20	21	29
Indefinite article 'a/an'	42	47	90	100	0	0	0	33	62	40	65	50	50	10	40	40
3 rd person 's'	45	57	43	67	17	22	10	34	15	13	35	32	0	0	0	15

Code. C1S1=Cycle 1, Stage 1; C1S3=Cycle 1, Stage 3; C2S1=Cycle 2, Stage 1; C2S3=Cycle 2, Stage 3;

In what follows, examples are provided from the children's written output and collaborative dialogues during the feedback analysis task in cycle 1 to illustrate how the trajectories they used, which entailed different types of problem-solving and degrees of noticing, impacted differently on the final written outcome in the revised texts.

In excerpt 1 below, an example of slight progress was found is the use of the -ing morpheme, (50% →65%) by low level pair 4 in the TG. This was the result of the use of Trajectory 18b (MLLP): An unreported problem whose solution in the model is noticed and incorporated.

Excerpt 1: Pair 4, Cycle 1 (Teaching group, low level) Trajectory 18b

.....
Stage 1: original output

Bat is sleep_

.....
Model:

A bat is sleeping (reading aloud)

.....
Stage 2: Noticing (Spot the Difference)

-P1: A bat is sleeping...

-P2: No.

-P1: Tenemos is sleep... [We have 'is sleep']

-P2: Entonces ponemos aquí: Sleep → sleeping

(lo anotan). [Then, let's write here:

'sleep' → 'sleeping'. They write it down]

.....
Stage 3: revised output

Bat is sleeping

.....
When writing their original text, this pair wrote erroneously 'is sleep' without reporting this production as problematic for them. At stage 2, when comparing their text with the model, they read 'a bat is sleeping' and realized by a 'spot the difference' strategy (superficial detection of differences) that something was missing in their writing. Thus, they copied 'sleep' → 'sleeping'. At stage 3, when rewriting their text, they were able to recall the correct verb form from the model, as they now wrote 'is sleeping', incorporating the -ing morpheme in their written output. However, in focusing solely on the verb form, they failed to notice the use of the indefinite article (a bat), which was not then incorporated into their revised clause.

Excerpt 2 illustrates the lack of progress in the use of indefinite articles (C1S1: 0% and C1S3: 0%) by LL pair 3 in the NTG. This was the result of having used Trajectory 15a (LLLP): An unreported problem, whose solution in the model goes unnoticed and is followed, therefore, by the repetition of the original output.

Excerpt 2: Pair 3, Cycle 1 (Non-teaching group, low level)Trajectory 15a

Stage 1: original output

^Wuich have^ toast and ^juice.

Model:

Firstly, a witch is having dinner in her castle with her cat and her bat
(reading aloud)

Stage 2: Noticing (No evidence)

-P2:Firstly, no lo hemos puesto (lo subrayan).[Firstly, we did not put it (underlined)]

-P1: Witch es bruja y nosotras lo hemos puesto.[Witch is witch and we put it.]

-P2: Con ‘u’...(lo subrayan). Pongo la nuestra y lo que ha escrito él (anotan wuich→witch). [With ‘u’...(underlined). I’ll write ours and what he wrote (they write wuich→witch)]

Stage 3: revised output

^Witch have dinner ^orange juice and ^sanguiw.

At stage 1, the children wrote ‘^Wuich have^ toast and ^juice.’ without reporting any problems with the absence of indefinite articles in their output. Since they did not perform any searches in relation to articles, it seems that they were unaware that these were required. At stage 2, a solution to their problem was provided in the model. However, the children read the sentence aloud without showing further evidence of noticing. Their attention was focused on the initial discourse marker (firstly) and the spelling of ‘witch’, both content words. At stage 3, this pair repeated their original output, improving the spelling of ‘witch’, but without adding indefinite articles to their writing.

The following example shows a decrease in the use of indefinite articles (C1S1: 62% and C1S3: 40%) by pair 4 in the NTG, using LLLP Trajectory 4a when an unsolved problem whose solution in the model is unnoticed is followed by the deletion of the original output.

Excerpt 3: Pair 4, Cycle 1 (Non-teaching group, low level) Trajectory 4a

Stage 1: original output

Witch have a idia

Model:

Then, she has **an** idea.

Stage 2: Noticing (No evidence)

-P1: Then, esa palabra no (subrayado). [Then, that word
no (Underlined)]

-P2: She has an idea. She has, no (subrayado). Idea, sí
[She has an idea. She has, no (underlined). Idea, yes.]

Stage 3: revised output

Witch have ^ idia

At stage 1, children had problems translating the sentence they had formulated in the L1 ‘La bruja tiene una idea’ [The witch has an idea] and they wrote ‘*Witch have a idia*’, using the indefinite article incorrectly. At stage 2, they failed to notice the solution provided in the model (‘an’), since their attention was already overloaded with the sentence-initial word ‘Then’, the verb ‘has’ and the content word ‘idea’. When rewriting their texts at stage 3, this pair deleted the indefinite article ‘a’ from their original text (‘*Witch have ^idia*’), presumably realizing that their output was incorrect, although they were unable to incorporate the correct form.

(ii) *The effects of instruction on the linguistic features of a new text*

Teaching group, high level learners (C1S3 and C2S1)

HL learners in the TG, when writing their new texts in the second writing cycle after the instructional period (Table 40 above), in comparison to their revised texts in the previous cycle, now used three morphemes accurately in obligatory contexts: -ing morpheme, (100% →100%), the definite article, (91% →90%) and the indefinite article ‘a/an’ (47%

→90%), one more than in stage 3, cycle 1. However, the 3rd person –s (57% → 43%) showed a lower percentage and the ‘be auxiliary’ was not supplied in an obligatory context. (50% →0%).

Teaching group, low level learners (C1S3 and C2S1)

After the teaching period, in C2S1 (Table 40 above), LL learners improvement was apparent in the use of the –ing morpheme (65% →100) and definite articles (44 % →63%) in comparison with their texts in C1S3. The ‘be auxiliary’ (50% →50%) remained unchanged and the accuracy percentage for the 3rd person –s (22% →10%) was lower, showing continuing instability in the use of this feature.

Non-teaching group, high level learners (C1S3 and C2S1)

In cycle 2, stage 1, HL pairs in the NTG continued to use the -ing morpheme accurately as in the previous cycle (100%→100%). This was not the case with definite articles, whose percentage was now lower than before (90%→82%). Nevertheless, they made marginal improvement in the use of indefinite articles (40%→65%) and the 3rd person –s (13%→35%), although they remained well below accuracy rates. The ‘be auxiliary’ (50% →50%) remained unchanged.

Non-teaching group, low level learners (C1S3 and C2S1)

In C2S1, LL children from the NTG made very few improvements, they marginally improved their use of –ing morpheme (50%→60%) and indefinite articles (10% →40%) while the definite article remained stable (20%→21%).The be auxiliary (33% →0%), was supplied incorrectly in obligatory contexts.

From these data no strong patterns emerged regarding the effects of instruction on the children’s use of specific morphosyntactic features in the writing of a new text. Learners in the TG maintained similar accuracy percentages to those obtained at the end of the first writing cycle, although these were consistently higher (in the case of the HL learners) and similar (in the case of the LL learners) to the percentages shown by the HL learners in the NTG. In the TG minor improvements were made only with the indefinite article (HL) and the –ing morpheme (LL). In the NTG, the HL learners made some marginal improvements while the LL learners maintained or decreased their accuracy rates. The

fact that the TG showed less deterioration in their morphosyntactic development after two months without regular EFL classes might be considered as a positive finding.

A selection of excerpts are provided below from the children's revised written output in C1S3 and their new text in C2S1 to illustrate the minor progress made in the use of morphosyntactic features on new texts after instruction.

In excerpt 4, HL learners in the TG showed signs of progress in their new texts in cycle 2 (C2S1) in comparison to their revised texts in cycle 1 (C1S3) in the case of the indefinite articles (47% →90%), as exemplified in the following excerpts.

Excerpt 4: Pair 1 (Teaching group, high level)

.....
Cycle 1: revised output (cycle 1)

She dinner one sandwich and juice.

.....
Cycle 2: original output (cycle 2)

Once upon a time a scientific does a potion.
.....

As shown in excerpt 5, the LL pair 4 in the TG showed some progress in their new texts in cycle 2 (C2S1) in comparison to their revised texts in cycle 1 (C1S3) in the case of the -ing morpheme (C1S3: 65%, C2S1: 100%), as exemplified in the following excerpts.

Excerpt 5: Pair 4 (Teaching group, low level)

.....
Cycle 1: revised output (cycle 1)

He is drink_ oranje juice

.....
Cycle 2: original output (cycle 2)

The dog is sleeping
.....

Low level pair 4 in the TG slightly increased their use of definite articles (C1S3: 44%, C2S1: 63%) as shown in excerpt 6, and HL pair 1 in the NTG used the 3rd person -s slightly more (C1S3: 13%, C2S1: 35%) as in excerpt 7.

Excerpt 6: Pair 4 (Teaching group, low level)

Cycle 1: revised output (cycle 1)

^ bat is sleeping

Cycle 2: original output (cycle 2)

***the** dog is esleeping*

Excerpt 7: Pair 1 (Non-teaching group,
high level)

Cycle 1: revised output (cycle 1)

*The witch **look** the cat.*

Cycle 2: original output (cycle 2)

*The ungly person **has** a potion*

Other features, such as the ‘be auxiliary’ remained unchanged. For instance with low level pair 3 in the TG (C1S3: 50%, C2S1: 50%), as shown below.

Excerpt 8: Pair 3 (Teaching group, low
level)

Cycle 1: revised output (cycle 1)

Bat the^ sleeping

Cycle 2: original output (cycle 2)

The dog ^ slipping

The accuracy percentages of some morphosyntactic features were lower or the same in LL learners’ new texts in cycle 2 in comparison to their revised texts in cycle 1. For instance, this was evident in low-level pair 4 in the NTG in relation to the ‘be auxiliary’ (C1S3: 33%, C2S1: 0%), as shown in excerpt 9, and definite articles (C1S3: 20%, C2S1: 21%), as in excerpt 10 below.

Excerpt 9: Pair 4 (Non-teaching group, low level)

.....
Cycle 1: revised output (cycle 1)

Bat is sleeping

.....
Cycle 2: original output (cycle 2)

Dog ^sleeping
.....

Excerpt 10: Pair 4 (Non-teaching group, low level)

.....
Cycle 1: revised output (cycle 1)

^Bat get up

.....
Cycle 2: original output (cycle 2)

^Dog get up
.....

(iii) The accumulated effects of exposure to the model after instruction

The results of the children's use of grammatical morphemes in cycle 2, stage 3, reflect the accumulated effects of instruction and a second exposure to a model text in the case of the TG , and the effects of a second exposure to the model in the NTG.

Teaching group, high level learners (Cycle 2)

The HL learners in the TG now showed consistent use of three of the five morphemes: -ing morpheme (100% →100%), definite articles (90% →100%) and indefinite articles (90% →100%). They also improved their accuracy percentage for the 'be auxiliary' (0% →50%) and the 3rd person -s (43% → 67%).

Teaching group, low level learners (Cycle 2)

The LL learners in the TG maintained their accurate use of the-ing morpheme in their revised texts (100% →100 %). Furthermore, they increased their use of definite articles (63% → 82%) which was close to reaching accurate usage, as well as improving the 3rd person -s (10% →34%). Indefinite articles, which had been absent from all of their previous texts now began to appear (0% →33%). The 'be auxiliary' (50% →50%) remained unchanged.

Non-teaching group, high level learners (Cycle 2)

In cycle 2, HL pairs in the NTG only made consistent use of the -ing morpheme (100% →100%) both in their original and revised texts. The ‘be auxiliary’ in their texts remained unchanged (50% →50%) while accuracy percentages for definite articles (82% →70%), indefinite articles (65% →50%) and the 3rd person –s (35% →32%) were slightly lower.

Non-teaching group, low level learners (Cycle 2)

LL learners in the NTG continued without reaching an accuracy percentage for any of the morphosyntactic features. However, when comparing both texts, these learners slightly increased their use of the ‘be auxiliary’ (0% →50%), definite articles (21% →29%) and there was also emergent use of the 3rd person –s (C21S1: 0%, C1S3: 0%, C2S1: 0%, C2S3: 15%), but these were well below accurate usage.

The findings indicate that the instructional intervention together with exposure to a model text leads to greater gains in the accurate use of specific morphemes than exposure to a model text alone. This was also found to be dependent on proficiency levels, since the HL learners in the TG improved on all the morphosyntactic features, using all but two of the five accurately in obligatory contexts. They also showed a greater margin of improvement than their LL counterparts. However, these LL learners made greater progress than the LL learners in the NTG and managed to equal the accuracy percentage of the HL learners in the NTG group for the –ing morpheme. Their accuracy percentage for the definite article was slightly higher than the HL learners in the NTG and similar for the third person –s morpheme.

Some examples are included below to illustrate the children’s use of trajectories in achieving progress in the use of morphosyntactic and discursive features after instruction and/or exposure to a second model text. As noted, only HL pairs in the TG made considerable improvement in their writing after using the model in cycle 2. These pairs incorporated whole sentences from the model, which enabled them to improve their accurate use of articles among others.

Excerpt 11 below exemplifies their use of Trajectory 3 (MLLP), in which input in the model, which is unrelated to the original text, is noticed and incorporated.

Excerpt 11: Pair 2, Cycle 2 (Teaching group, high level) Trajectory 3

Stage 1: original output

(Nothing related was written)

Model:

A scientist is in his laboratory. He is very excited.

Stage 2: Noticing (Spot the difference and translation)

-P1: A scientist is in his laboratory, un científico está en su laboratorio [A scientist is
in his laboratory]

-P2: Eso es diferente, no lo hemos puesto. [That is different, we didn't put that]

-P1: No, subráyalo. [No, underline it.]

-P1: He is very excited, él está muy excitado, eso tampoco lo hemos puesto.

Subráyalo. [He is very excited, we didn't put that either. Underline it.]

Stage 3: revised output

A scientist, he is in his laboratory. He is very excited.

During the feedback comparison stage in cycle 2, high level pair 2 from the teaching group noticed two sentences in the model that were different from their original output. In both cases, they used a combination of spotting the difference and translation strategies and underlined the sentences in the model. The input was understood semantically although there was no evidence of syntactic processing. It is possible, then, that the pair memorized these sentences as unanalysed wholes. At stage 3, when rewriting their text, they incorporated both sentences, thus accurately using the 'be copula' twice, a possessive adjective 'his' and the indefinite article 'a'. However, they also included incorrectly the personal pronoun 'he' as a placeholder.

Excerpt 12 shows an example of slight progress that was found in the use of the 3rd person –s by HL pair 1 in the TG (43% → 67%). Thanks to their noticing of the inflectional morpheme in the model, they managed to solve a problem they had not reported while writing their initial texts. This trajectory T18b (MLLP) led to a successful outcome.

Excerpt 12: Pair 1, Cycle 2 (Teaching group, high level)Trajectory 18b

Stage 1: original output

*The scientific **drink** a potion*

Model:

He drinks the whole potion

Stage 2: Noticing(Metalinguistic reasoning)

-P2: He drinks the whole potion, él bebe la poción, eso lo escribimos. [He drinks the whole potion, he drinks the potion, we wrote that.]

-P2: Ellos han puesto ‘drinks’ y nosotras escribimos ‘drink’, se nos ha olvidado poner la “s” de tercera persona. [He drinks the potion, they have put ‘drinks’ and we wrote ‘drink’, we forgot to put the 3rd person -s]

Stage 3: revised output

*The scientist **drinks** the new potion*

In their original text, pair 1 had written ‘*The scientific drink a potion*’ without reporting anything problematic with the verb form ‘drink’. At stage 2, the model offered a solution to that problem which was noticed by the children. Firstly, they translated the model sentence showing that they had understood it semantically. However, they then went on to process the input syntactically and engaged in metalinguistic reasoning upon explicitly noticing the difference between their output and the verb form in the model, which included the 3rd person –s morpheme. After this substantive noticing, they directly incorporated the morpheme, without any further searches when rewriting their text at stage 3 ‘*The scientist drinks the new potion*’.

The LL learners in the TG showed emergent use of the indefinite article after comparing their texts with the model in cycle 2. For instance, LL pair 3 in the TG now used an indefinite article for the first time in a clause (C21S1: 0%, C1S3: 0%, C2S1: 0%, C2S3: 33%) in their revised texts in cycle 2. To do so they used T18b (MLLP) in which the solution provided by the model for an unreported problem was noticed and later incorporated into their revised text. This is shown in excerpt 13.

Excerpt 13: Pair 3, Cycle 2 (Teaching group, low level) Trajectory 18b

Stage 1: original output

The sadelli they herd ^bomm!

Model:

There is **a** loud noise and **a** bright flash of light.

Stage 2: Noticing (Spot the differences)

-P1: Todo esto no lo escribimos... [We didn't write any of this.]

(They underlined: There is a loud noise and a bright flash of light)

Stage 3: revised output

The scientist hear a boom!

At stage 1, children wrote ‘^bomm’ in their original text, without considering this as problematic. At stage 2, the model offered a solution ‘a loud noise’ to their unreported problem, which the children noticed by spotting the difference between the model sentence and their own text, but without showing any evidence of having understood the input semantically, as they simply underlined the entire sentence without commenting on it further. At stage 3, they were able to incorporate an indefinite article into their text by writing, for example, ‘a boom’. It is possible that despite not processing the sentence semantically or syntactically, the presence of two indefinite articles in the model sentence may have left a trace in their memory that they retrieved when attempting to rewrite this idea in the revised version of the story.

An example of the emergent use of an inflectional morpheme is shown in excerpt 14 below, when LL pair 4 in the NTG now used the 3rd person –s (C21S1: 0%, C1S3: 0%, C2S1: 0%, C2S3: 15%) in their revised texts in cycle 2 for the first time. To do so they used T12 (MLLP) in which the solution provided by the model for their initially unsolved problem was noticed and later incorporated.

Excerpt 14: Pair 4, Cycle 2 (Non-teaching group, low level) Trajectory 12

Stage 1: original output

*Cientif Jose **dring** potion*

Spelling search:

-P2: Cientif Jose bebe la poción. ['cientif' Jose drinks the potion]

-P1: Um... Gruing water. Can I drink water, please?

-P2: No, water es agua. [No, water is water.]

-P1: Gruing potion, ¿Cómo se escribe gruing? [Gruing potion. How do you write 'gruing'?]

-P2: G-r-u-i-n -g, más o menos. [G-r-u-i-n-g, more or less.]

-P1: Gruing potion (they write it).

-P2: Ah! Era dring... (they revised it) [Ah! It was 'dring']

Model:

He drinks the whole potion

Stage 2: Noticing (filling the hole)

-P1: Drinks, lleva aquí la ks... (lo subrayan) [Drinks, has here the 'ks'...(They underlined it)]

-P2: Ha faltado poco... [It was close...]

Stage 3: revised output

Jose drinks drinks potion

At stage 1, cycle 1, LL pair 4 in the NTG when writing their original text engaged in an spelling search for 'drinks', but unable to solve it correctly, they wrote 'dring'. At stage 2, when comparing their text with the model, primed by their original search, they noticed the correct spelling they had been looking for ('drinks') and at stage 3 when rewriting their text they recalled and incorporated the correct form into their text.

An example of no progress in the use of the 'be auxiliary' was found in the revised text of LL pair 4 in the NTG (50% →50%), as illustrated below.

Excerpt 15: Pair 4, Cycle 2 (Non-teaching group, low level) Trajectory 15a

Stage 1: original output

Dog ^ sleeping

Model:

It's late and his dog is sleeping on the table next to him.

Stage 2: Noticing (No evidence)

Sleeping, también lo tenemos igual... [Sleeping, we also have that...]

Stage 3: revised output

Dog ^ sleeping

In cycle 2, Pair 4 in the NTG used LLLP trajectory 15a by which their unreported problem 'dog sleeping', which did not include the 'be auxiliary', was followed by the repetition of the original output 'dog sleeping'. This is attributable to the fact that when analyzing the model, the children showed no evidence of having noticed the 'be auxiliary' accompanying the main verb (*'is sleeping'*) as their attention was focused on identifying lexis that was similar to their own text.

Synthesis of the findings on the linguistic features in the children's texts

- The short-term effect of the model text on children's suppliance of morphemes in obligatory contexts was negligible.
- The model proved useful for helping learners to incorporate new lexis into their revised texts, adding ideational content and largely replacing their L1 output. Improvements in spelling were also made.
- Accuracy rates for morpheme use on a new narrative text were similar for all pairs to those of their revised texts in cycle 1
- The long-term effects of exposure to the model were mediated by instruction and proficiency. The teaching intervention had a greater impact on the HL learners in the TG who increased the suppliance in obligatory contexts for almost all the morphemes in their revised texts. LL learners in this group consolidated their use of the -ing morpheme while pairs in the NTG showed little change across texts.

- Discursive features were found to be dependent on instruction, since only learners from the TG, regardless of their proficiency level, included appropriate discourse markers in their revised texts after the comparison with the model in cycle 2.

IV.3.5. Summary of the main findings for research question 3

Changes in the children's written texts:

N° of words and error ratios:

- The improvements in the accuracy of the children's written output as measured by text length and error ratios were mediated in the short-term by exposure to the model text.
- Learners who attended the teaching period made fewer errors on new pieces of writing than the learners who did not.
- The children's proficiency levels also influenced the results, since improvement in accuracy was higher for HL pairs in the TG in comparison to the LL pairs. After the teaching period, although the LL pairs reduced their error ratios, the HL pairs managed to write more accurate texts.

Type of clausal units:

- All learners, regardless of group or proficiency level were found to improve the acceptability and comprehensibility of their revised texts after the initial exposure to the model text.
- Children in the TG relied to a lesser extent on less acceptable clausal units in new pieces of writing than learners in the non-teaching group.
- After the instructional period only learners from the TG considerably improved the quality of their clauses. Instruction may have helped them become more receptive and better disposed to cognitively process the model text, thus enabling them to improve the degree of linguistic acceptability and comprehensibility of their revised written output.
- The level of linguistic acceptability and comprehensibility of the children's texts was also dependent on proficiency levels. The changes the TG pairs made to their texts after analysing the model led to a general pattern of progression from simpler to more complex clausal units depending on the

pairs' proficiency level: LL learners from pre-clauses to proto-clauses and HL learners from proto-clauses to clauses.

Improvements, partial improvements and drawbacks:

- The specific changes learners made in their revised texts were mediated in the short-term by exposure to the model text, leading to a greater proportion of improvements and partial improvements than drawbacks.
- The type of changes children made in their texts in the second writing cycle were found to be mediated by instruction, leading to triple the amount of improvements and slightly more partial improvements related to the model in the TG pairs in comparison to those in the NTG.
- In general, proficiency did not lead to differences in relation to the *amount* of changes that HL and LL learners made in their texts either between or within groups. All the learners in the teaching group were able to take advantage of the model to improve their writing after the instructional period.

➤ *Linguistic features:*

- In the short-term, lexis and spelling improved after exposure to the model, however, less progress was apparent in the use of morphosyntactic features by learners in both groups
- In their new texts in the second writing cycle, accuracy rates for the use of morphemes were similar to those in their revised texts in cycle 1
- The development of morphosyntactic features in the children's revised text in cycle 2 was mediated by instruction and proficiency. The HL learners from the TG showed considerable improvement in their use of morphological features while the LL learners outdid the LL pairs and reached similar rates to the HL pairs in the NTG.
- Improvements in the children's output were associated to their use of trajectories with MLLP.

Chapter V:

Discussion and Conclusion

V.1. Summary of Research Findings

In this chapter, a summary of the main findings of this doctoral thesis is presented and interpretations are made in relation to relevant theory and research. Next, implications for pedagogy are suggested. Finally, some of the limitations of the study are discussed together with proposals for future research. The chapter ends with concluding remarks about the contributions of the thesis.

Research Question 1

What trajectories do young EFL learners engage in when writing narrative picture stories, analyzing feedback in the form of a model text and rewriting their original texts?

The integrated analysis of the children's collaborative dialogues and their written output led to the identification of a comprehensive typology of 24 feedback processing trajectories which connected the learners' problem solving processes while writing to their noticing of input from a model text and the outcome of this noticing in terms of the revisions made to their written products. Each trajectory comprises (i) an initial state resulting from difficulties experienced during the writing process that cover the types of unsolved, solved and unreported problems learners might have, as well as non-problematic output; (ii) a solution, partial solution, alternative solution or lack of solution in the model; (iii) the noticing, partial noticing or unreported noticing of these solutions and (iv) a final written outcome resulting from the learners' previous processing behaviours including incorporations or partial incorporations of features noticed in the model and the deletion or repetition of their original output. The different trajectories identified enabled us to account sequentially for the multiple routes learners' might follow during output and input processing. Since they cover a much broader array of options and possibilities than those currently contemplated in available literature, as a research tool,

the trajectories proved useful in providing insights into how and why young EFL learners benefit (or not) from the use of models as a written corrective feedback technique.

Can the trajectories deployed by the children be differentiated in terms of their language-learning potential?

The trajectories were distinguished in terms of their progressive potential for enhancing language learning taking as their defining criteria learners' noticing processes during feedback analysis in combination with the impact of that noticing on the quality of their revised written output. This meant expanding the way both noticing and uptake has been coded in research on models to date as 'all or nothing' phenomena in an attempt to account for the subtleties involved in the 'scope of noticing' (Hanaoka, 2007) and the 'gradual and nonlinear changes in linguistic (and metalinguistic) behaviour' (Sachs & Polio, 2007). This involved the consideration of learners' unreported and partial noticing as well as their noticing of new features from the model and the identification of new and partial incorporations of linguistic features together with the repetition or deletion of written output. Establishing this link between learners' cognitive processing and the linguistic evidence in their written texts in terms of improvements, partial improvements and drawbacks enabled us to further our understanding of how specific trajectories might influence children's second language development.

The trajectories encompassing more language learning potential that were used most frequently by all the children in the study included occasions when the learners noticed and incorporated a solution from the model to a previously unsolved problem (T12), and when they noticed and incorporated new (T3) or alternative (T20b) linguistic and ideational content. The most commonly used trajectories with less language learning potential included the children's failure to incorporate the solution to an unsolved problem into their revised texts despite having noticed it (T10); the deletion of an unsolved problem after partially noticing a solution in the model (T17) and the deletion of ideational content when solutions to an unreported problem were unavailable in the model (T14a).

Is the children's use of trajectories with more and less language-learning potential mediated by instruction and/or proficiency?

The learners' use of trajectories with more and less language learning potential was found to be mediated by both instruction and proficiency. Children in the teaching group improved their use of trajectories with MLLP after instruction and reduced their reliance on those with LLLP. The teacher's intervention helped the children to improve the quality of their noticing as evidenced in the increase in their ability to successfully notice and incorporate input from the feedback after instruction (T12), together with a corresponding decrease in their tendency to rely on superficial or incomplete noticing whereby the target of their noticing did not lead to the upgrading of their written output (T10). The children who did not receive instruction used fewer potentially beneficial trajectories than their counterparts and continued to have difficulties incorporating features noticed in the model into their linguistic repertoire (T10) even after a second exposure two months after the initial writing and feedback cycle.

Proficiency was also found to impact on the children's use of the trajectories with more and less language learning potential. Prior to the teaching intervention, the most frequently used trajectories by pairs of both proficiency levels were T10 (LLL), which led them to repeat their original faulty output despite noticing a solution to the problem in the model text, and T12 (MLL), a more beneficial trajectory by which they successfully solved problems using the model text. Some variation was found in the teaching group after the instructional period as high proficiency learners diversified their use of potentially beneficial trajectories to a greater extent than the low proficiency pairs by increasing their noticing of new linguistic features (T3) even in the absence of initial problems, and by finding alternative ideas and content in the model that allowed them to improve the quality of their written output. (T20b). Both high and low proficiency learners in the non-teaching group used trajectories more similarly over the two writing cycles.

Research Question 2

How are the trajectories used by the children related to changes in the acceptability and comprehensibility of their written output? To what extent is this mediated by a) instruction and b) proficiency?

The detailed analysis of the minor changes made by the pairs to their written output at sub clausal and clausal levels across cycles confirmed the existence of a close connection between developments in their textual production and the language learning potential inherent to the trajectories they used to articulate those changes. This meant that upgrading the acceptability and comprehensibility of their written output by either transitioning to or adding a higher clausal unit was achieved as a consequence of using trajectories with more potential for fostering language learning which, in turn, translated into improvements or partial improvements in the children's texts. Conversely, transitions to less acceptable clausal units or textual deletions involving the loss of ideational content were associated to trajectories with less language learning potential and generally constituted a drawback in the written output. These findings provided empirical support for the theoretically established differentiation of trajectories in terms of their language learning potential.

The transitions made by the children to more acceptable and comprehensible clausal units were mediated by both instruction and proficiency. After participating in the instructional sessions, all the children in the teaching group increased their production of *higher clausal* units across cycles, while the non-teaching group mostly reduced their transitions of this kind. Instruction was a prevailing influence on the children's use of the trajectories that enabled them to implement these changes, since the teaching group children doubled (HL) and tripled (LL) their transitions to higher clausal units and used more beneficial trajectories to do so. These trajectories involving greater language learning potential led the children from the teaching group to implement more improvements and partial improvements in their writing than the non-teaching group who, on reducing the number of higher-level transitions, used fewer potentially beneficial trajectories. The proficiency level of the learners, regardless of their group, influenced the kinds of changes made to higher clausal units. This meant that lower proficiency learners in both groups produced

more transitions from pre to proto clauses while the higher proficiency children produced more proto to clausal transitions.

Transitions within the *same* clausal units were also mediated by instruction and by proficiency. The transitions within clauses were more frequent for the higher proficiency children in both groups, highlighting the influence of proficiency. Both groups used within-unit transitions similarly in the first writing cycle, but not so in the second cycle since, as a result of instruction, as mentioned above, the teaching group children went on to make a greater number of transitions to higher clausal units, thus reducing the frequency of their within-unit changes. In addition, after the teaching sessions, the low proficiency children in the teaching group eliminated transitions within pre-clauses in the second writing cycle. In contrast, the non-teaching group children maintained or slightly increased their use of these low level transitions. These patterns were borne out by the children's use of trajectories, with the teaching group using fewer trajectories of both kinds in accordance with the decrease in their within-unit transitions. The pairs in the non-teaching group used beneficial trajectories similarly in cycle 2, although there was a slight increase in the use of less beneficial trajectories by the low proficiency children. The more and less beneficial trajectories were related to improvements and drawbacks respectively.

Transitions involving the *deletion* and *addition* of clausal units were mediated differently by instruction and proficiency. In general terms, high and low proficiency pairs in both groups deleted more pre-clauses than clauses, which showed evidence of the general progress made by all the learners. The teaching group deleted more units than the non-teaching group in cycle 1, but then went on to delete fewer units after the instructional period, suggesting that teaching may have helped them to solve their problems by maintaining or improving their output rather than by deleting problematic language. This group also added more clauses than the non-teaching group in both cycles, particularly the high proficiency children, while only the low proficiency children in both groups added pre-clauses. This suggests that the addition of different types of clausal unit was more closely related to their level of proficiency. Trajectories with less learning potential led to deletions and more drawbacks while more beneficial trajectories led to clausal unit additions and constituted improvements or partial improvements in the children's texts.

Research Question 3

Is there evidence of second language development in the children's written output as a result of exposure to model texts? If so, is this mediated by instruction and/or proficiency?

Evidence of development in the children's texts was gathered using several parameters including text length, error rates, the type of clausal units produced, improvements, partial improvements and drawbacks in their written output, as well as the lexical and discursive characteristics of their written texts and the sequential production of specific morphosyntactic features in both writing cycles.

Exposure to the model text in the first writing cycle was found to have positive short-term effects on enhancing the length, overall accuracy, and acceptability of all the children's rewritten texts, although the relevance of these gains was related to their proficiency level. The accuracy and acceptability of the children's written output was mediated by their proficiency. Higher proficiency pairs in both groups wrote more accurate texts both before and after exposure to the feedback than their lower level peers. Proficiency also influenced the type of clausal unit they produced, with higher-level pairs writing more proto clauses and clauses while the texts of the low proficiency pairs were characterized by more pre and proto clauses both before and after exposure to the model. These clausal unit changes translated into a greater number of improvements and partial improvements than drawbacks in the revised texts of the pairs in both groups. Slightly more than half of these positive changes were related to the model. Improvements in the revised texts after the first round of feedback were reflected principally in lexis and spelling. The model did not have a direct impact on the children's use of specific grammatical morphemes, which was also dependent on their proficiency. Only the high proficiency pairs in both groups continued to use the -ing morpheme and the definite article accurately in obligatory contexts. The low proficiency pairs did not reach accurate usage in any of the morphemes.

In the writing of a new text three months after the instructional treatment, high and low proficiency pairs in the teaching group produced shorter texts with higher error ratios in comparison to their rewritten texts in cycle one. The same was true of both proficiency learners in the non-teaching group who also wrote shorter and less accurate texts across cycles. All the children, regardless of group and proficiency level, wrote fewer and less acceptable clausal units than in the first writing cycle. The losses in terms of the quality

of the children's texts were less pronounced in the high proficiency children in the teaching group. These pairs eliminated L1 lexis from their narratives and introduced temporal discourse phrases. They also continued to use the -ing morpheme and the definite article accurately and maintained an upward trend with the indefinite article, but use of the 'be copula' was incorrect. The low proficiency pairs in the teaching group struggled with the spelling of key words but continued to make progress with the -ing morpheme, and some slight improvement with the definite article. This was not the case with the indefinite article, which they used incorrectly in obligatory contexts. In the non-teaching group both sets of pairs also relied on the L1 and misspelt approximations of L2 words. Only the high proficiency children maintained accurate usage of the -ing morpheme. The accuracy scores of both sets of proficiency pairs on the remaining grammatical functors, as with the LL pairs in the teaching group, were low. Instruction did not make a notable impact on the length of the children's texts, error ratios or production of clausal units when writing a new picture story text. HL learners in the teaching group consolidated the use of two of the six morphemes and improved another. LL learners improved one and showed slight improvement in another, without reaching accuracy.

However, the combination of the instructional sessions with exposure to the model seemed to help all the children in the teaching group to write longer, more accurate and more acceptable revised texts than their counterparts in the non-teaching group, whose texts were shorter, and inferior in both accuracy and acceptability. The lower proficiency pairs equalled the error ratio of the high level pairs in the non-teaching group. Both proficiency pairs in the teaching group also progressed in the production of higher-level clausal units in comparison to the non-teaching group who continued to use the same clausal unit types as their original texts. The superiority of the teaching group in terms of the accuracy and acceptability of their written output was corroborated by the improvements and partial improvements made to their written output, the majority of which matched the model. This suggests that instruction proved useful in helping the children allocate their attention more strategically during feedback processing, thus enhancing the quality of their written output. Long-term effects of instruction on feedback processing were revealed in the accurate use of four of the six grammatical morphemes by the high proficiency children in the teaching group. They consolidated their use of the -ing morpheme, further improved the article system. Improvements in other grammatical

functors including possessive adjectives and the ‘be copula’, as well as lexis and cohesive devices were also apparent. Only the third person –s and the ‘be auxiliary’ continued with lower accuracy rates. The low proficiency pairs corrected lexical errors, consolidated their use of the –ing morpheme, continued to progress in their use of the definite article and showed emergent use of the indefinite article, which they had used incorrectly in all previous obligatory contexts. In the non-teaching group, with the exception of the –ing morpheme and very slight improvement in the use of pronouns, the accuracy scores of the high proficiency children were similar or slightly lower on all the other morphemes in comparison to their previous written output. Improvements were restricted to lexis, which they incorporated from the model. This tendency was the same for the low proficiency children who maintained variable scores over time without reaching accurate use in any of the grammatical morphemes.

In sum, this doctoral thesis has provided evidence to show that:

- i. Young learners follow a variety of trajectories when writing and processing feedback in the form of a model text. The language learning potential inherent to these trajectories, in relation to learners’ noticing of and use of solutions to their linguistic problems, impacts on changes in the quality of subsequent written output.
- ii. Exposure to a model text enables young learners to slightly improve the accuracy and acceptability of their written output during revision as a function of their proficiency levels. These improvements were essentially related to lexis and spelling.
- iii. Instruction did not lead to improvement in the length, error ratios or acceptability of the children’s new texts after three months, although some qualitative improvements were apparent at the level of lexis and discourse. Both HL and LL learners either consolidated or improved a limited number of morphemes.
- iv. The combined effects of instruction and exposure to a model text foster improvements in the accuracy and quality of learners’ written output more than feedback alone, and contribute to second language development particularly in higher proficiency children by expanding their lexical and cohesive repertoire and consolidating grammatical knowledge, specifically the -ing morpheme, the article system. Smaller gains were also achieved by lower proficiency children.

V.2. Discussion of the Findings

V.2.1. Writing and feedback processing trajectories: a sequential analysis along the output-input-output continuum

The results of this doctoral thesis contribute to expanding current theory and research on the language learning potential of written corrective feedback. To date it is known that WCF has the potential, under certain conditions, to help learners use the L2 with greater accuracy and to develop their L2 knowledge (Bitchener & Storch, 2016). However, as noted by these authors, “less is known empirically about why learners are able to progress (or fail to progress) from one stage of processing to another and how individual and contextual factors may moderate the processing of written CF” (p.67). The research presented here represents an attempt to respond to this gap in the field by bringing together the complex interaction of learner-internal and learner-external factors through the identification of the trajectories that learners follow along the output-input-output continuum, as mediated by instruction and proficiency.

The trajectories used by the learners throughout the two multi-stage tasks afford valuable insights into why and at which point some young EFL learners move successfully from output through input processing and on to rewritten output whereas others do not. They show whether learners identify ‘holes’ and ‘gaps’ in their output, if and how these gaps are processed and whether the outcome of that processing is successful or not. In the best possible scenario, as evidenced in trajectories with more language learning potential, having noticed a problem in their written output, learners will go on to notice a solution in the model, process that solution semantically and syntactically, use this knowledge to create or try out a new hypothesis, integrate the knowledge into their developing interlanguage system and use their knowledge accurately in rewritten output. To facilitate this process is, in fact, the ultimate goal of written corrective feedback. However, along the way, learners might divert from this ideal route when, for example, at the initial writing stage they fail to acknowledge a hole or gap in their output; during the feedback analysis stage they might fail to notice a solution in the model, only partially notice a solution, or notice a solution without having sufficient understanding and awareness to convert the target of their noticing into material for acquisition. Any combination of these

digressions from the main processing route can short circuit the acquisition process, the result of which becomes evident in the repetition of faulty output, the deletion of content as a result of missed opportunities to incorporate a solution from the model or the incorporation of only a partially correct solution in future written production. These digressions all constitute trajectories with less language learning potential.

What is clear is that noticing and depth of processing are crucial in determining the language learning potential of the trajectories. This includes both the self-generated noticing of problems while writing and the extent to which solutions or alternatives to these problems are noticed while processing feedback. Unreported problems during the writing process rarely led to successful outcomes, as solutions, even when available, were seldom noticed. The identification of unsolved problems thus proved essential for paving the way for more focused noticing. However, having located a problem, the extent to which the feedback was processed was then decisive in determining whether or not a solution might be incorporated. Hence, the shallow spotting of similarities and differences between the model and the learners' written texts, either by reading aloud or underlining, or by translating parts of the model into the L1, offered no guarantee that the target of this noticing would be processed deeply enough to leave a lasting trace in the learners' memories. Yet, when learners actively searched the model for solutions to gaps in their knowledge or showed some degree of metalinguistic awareness of language form, the likelihood of their retaining the L2 features noticed improved.

In this sense, the trajectories learners follow seem to be the result of a dynamic interplay between their prior knowledge of the L2 and the linguo-cognitive processing mechanisms they activate, both of which operate on the feedback received. Additional internal factors including proficiency, affective engagement and familiarity with the task further influence the trajectories pursued, as do the potential benefits afforded by the external impact of instruction or collaborative writing. The concurrent and changing interaction between these multiple forces can either strengthen or limit the potential of written corrective feedback to contribute to the development of children's writing and second language knowledge.

V.2.2. The impact of models on children's written output and second language development

As a written corrective feedback technique model texts have been found to provide learners with a good example of acceptable writing in the L2 while at the same time engaging them in the type of problem solving that is thought to lead to language learning. The short and long-term improvements identified in the length, error ratios, and production of more acceptable clausal units in the children's written output after exposure to model texts, together with the lexical, discursive and grammatical characteristics of their written output, offer further empirical evidence that models can help second language learners to improve their written production and develop their knowledge of the second language in the process.

Given the age and generally low level of the participants in this study and the need we have reiterated for research on WCF to expand its narrow focus on reporting exclusively positive learning outcomes, an important contribution of this thesis has been to examine in detail the partial gains made by our young EFL learners in an attempt to account for small signs of development in their second language knowledge. This is important, as we are not dealing with adults or children in immersion settings whose L2 knowledge and experience is generally more extensive. The children in this study had limited or no exposure to the L2 beyond the classroom. Yet, to date, most of the insights from studies of written corrective feedback come from the analysis of older learners at more advanced proficiency levels. Given the gulf between these more proficient learners and the participants in our study, it seemed inappropriate to describe the children's developmental progress in absolute terms. What we sought to do was to describe the 'grey area' of development at the very low end of the proficiency scale. On doing so, we uncovered evidence of how children use model texts to stretch their limited second language resources in the direction of development, lexically, discursively and grammatically. We would argue that even small changes in the children's written output over time constitute important evidence of second language development.

V.2.2.1. Lexical development

In interpreting the findings, the children's improvement in lexis comes as no surprise as it coincides with research to date on models, which has emphasized that learners' noticing and uptake from models is predominantly lexically driven (Cánovas et al, 2015, Coyle & Roca de Larios, 2014; Hanaoka, 2006a, 2006b; 2007; Hanaoka & Izumi, 2012; Martínez Esteban & Roca de Larios, 2010; Yang & Zhang, 2010). This may be related to an amalgamation of factors including the 'priming' effect of the children's self-initiated noticing during the original writing stage that predisposed them to search for solutions in the models to their problems, which, given their limited proficiency, were primarily lexical (Hanaoka, 2007). All learners found solutions or partial solutions for lexis they had only been able to convey in their L1, they enriched their lexical output by correcting the inaccurate spelling of L2 forms and introduced new L2 words and phrases that caught their attention and that were easily understood from the picture story context. The children's attention to lexis seemed to depend on what they already knew or did not know in the L2. Learners of both proficiency levels who had used several L1 words in their initial output either replaced them with the L2 equivalent or eliminated their original L1 output, when possible. This tendency was more frequent in lower proficiency learners. Higher proficiency learners also seemed better able to pay more attention to new or alternative words in the model.

This finding coincides with research into the self-generated noticing of English and Japanese learners of Korean (Park, 2011), which suggests that the more L2 knowledge and experience learners have, no matter how minimal, the more their noticing becomes contingent on learner-internal factors and less so on the physical properties of the input they are exposed to. Hanaoka (2007) also suggests that proficiency and prior knowledge are related to what he refers to as the 'scope of noticing' (p 474), or the extent to which different aspects of language within a chunk are noticed. The children's strategic attention to lexis over linguistic form, in line with the primacy of meaning principle (Van Patten, 2004), meant that they were driven primarily to derive meaning from input. In processing the feedback, the pairs frequently resorted to translating the model and identifying points of semantic disparity or coincidence with their own text. This meant that they focused selectively on the words and phrases used in the model to convey the ideational content of the story rather than on how the meaning was grammatically encoded. This would

explain the children's failure to engage in integrative processing (Izumi, 2002) of the multi-word verbs they noticed or of grammatical elements in a clausal unit, including articles, possessive adjectives, the be auxiliary and inflectional morphemes, since their focus on extracting meaning from the model prevented them from analysing the individual elements in the linguistic chunk and the connections between them. Only when the children became aware of formal features in the input did they manage to focus on both form and meaning. Otherwise they overlooked grammatical elements at the expense of content words. Thus, the attentional focus of low and high proficiency children in our study and their ability to use the feedback for their own differential advancement was largely conditioned by their existing L2 knowledge. These visible differences in the children's underlying competence were later manifested in subsequent task performance.

The allocation of attention to meaning might be further complicated by the children's mediation of the L2 words and phrases of the model through their L1, a process that is attributed to the early stages of lexical development (Jiang, 2000). In the formal stage of lexical acquisition, instructed second language learners are believed to access the meaning of L2 lexis by association with equivalent L1 semantic lexical representations, so that translation, as we have seen with our younger learners, is almost inevitable. The mapping of the semantic information contained within the L1 lemma onto the L2 lexeme may account for the children's difficulties in accurately using some L2 forms (such as 'have dinner' or 'become') whose semantic and grammatical specifications in the L1 ('cenar' and 'convertirse') do not allow for direct form-function mappings. Similarly, the variability in the children's use of the third person -s might also be attributed to the lack of morphological specifications contained within their L2 lexical representations, which are generally composed of root forms without inflections. The successful production of verb forms thus requires conscious effort on the part of the learner, so that when inflectional details go unnoticed in the input, morphological errors are likely to occur in subsequent output. The findings in this respect provide empirical evidence for the L2 lexical development model proposed by Jiang (2000).

V.2.2.2. Grammatical development

The qualitative analysis of the children's written texts confirmed that exposure to feedback had made less of an impact on the growth of their formal L2 knowledge. All the

children, with the exception of the low proficiency learners in the non-teaching group, consolidated their use of the –ing morpheme, although they were still unable to consistently accompany the verb form with the be auxiliary to accurately produce the present continuous tense. Inflected verb forms with the third person singular –s morpheme were used inconsistently, and although some minor progress was evident in the revised texts of the pairs in the teaching group after instruction and exposure to the model, there were no stable signs of evolution. This is not unexpected as studies of children’s morphological development in both natural and instructional settings have shown that affixal inflection with the –s morpheme is acquired later than other regular and irregular past tense verb forms (Dulay & Burt, 1973; Lázaro 2012; Muñoz, 2006; Pica, 1983). Bastarrechea and García Mayo (2014) suggest that the third person –s might be difficult to acquire because it lacks perceptual salience and is not morphophonologically regular, while for Van Patten (1996, 2007) the problem resides in the fact that it is semantically redundant, as the meaning represented by the –s morpheme is expressed by the subject of a sentence. Since the third person –s morpheme is not easily acquired, it is clear that learners’ attention needs to be drawn regularly and systematically to verb morphology if there is to be any chance of speeding up an otherwise slow developmental process. The more positive results obtained in the teaching group seem to indicate that instruction can promote learners’ correct production of the target form once they have reached a certain threshold of proficiency.

A causal link between the frequency and, above all, the salience of forms in L2 input might account for the minor improvements detected with other grammatical functors, including subject pronouns and articles. While these formal features appeared recurrently in both the model texts the children handled, their salience was enhanced by becoming the focus of attention in the instructional sessions. In a meta-analysis of morpheme studies, Goldschneider and DeKeyser (2001) highlighted frequency of occurrence and salience of forms in the input as important influences on acquisition, while Long (2003) pointed to semantic weight, regularity and communicative value as additional contributing factors. Thus, providing abundant evidence of linguistic forms mapped onto their meanings within a meaningful context appears to promote the possibility of their being noticed. In this sense, the highlighting and discussion of specific linguistic features during the instructional sessions on model texts may have helped to advance the children’s learning process by enhancing their noticing and understanding of how these

features are used. Increasing the noticeability of particular form-function connections, then, appears to stimulate input processing, which can lead to learning gains (Skehan, 1998).

An increase in the appearance of personal pronouns in the learners' written texts was noticeable after the second exposure to a model text. In cycle one, there was greater fluctuation in the use of pronouns with no clear patterns between groups. Pairs who had used pronouns in their initial texts eliminated them in the rewritten version; while others who had not included any initially went on to use them after exposure to the feedback. While production was mostly target-like, inappropriate text-initial use of 'she' was found in the low proficiency pairs. In cycle two, three of the pairs in both groups used subject pronouns after initially referencing the main character. Growth in the children's use of subject pronouns by the end of the five month period might be taken as indication of their incipient acquisition of the L2 pronominal system, which García Mayo, Lázaro and Liceras (2005) have reported as emerging in Basque/Spanish bilinguals around the age of 12. It should be recalled that the children in our study were aged between 9 and 11 years old, that is, just in between the 7-8-year olds and the 12-13-year-old children in two of the groups in the above-mentioned study. The characteristics displayed by our learners are closer to the 12 year-olds described in García Mayo et al. (2005) rather than to the younger children who had not yet begun to produce subject pronouns. Their interlanguage featured use of 'she' and 'he' for character deixis in line with the picture story prompts, and a gradual tendency to move away from the construction of narratives based on the repetition of noun phrases. The overuse of pronouns was found in pairs of both proficiency levels, although their use as placeholders occurred infrequently; only two instances were found in a high proficiency pair in both groups. These findings complement results on pronominal use by EFL and CLIL learners reported by Lázaro Ibarrola (2002; 2012) and García Mayo et al. (2005), as they provide tentative evidence that the internalization of the L2 pronominal system, which speeds up around the age of 12, might be enhanced in younger learners when they are given the opportunity to notice how pronouns are used through the provision of feedback in the form of models. However, it should be recalled that the data in research to date has been obtained from oral language production. Further research is needed, therefore, to confirm this hypothesis.

Some evidence of developmental progress was also identified for the use of the article system in the instructional group pairs. Both picture stories provided numerous opportunities to use both English article functions to describe the characters and the objects they depicted. However, only higher proficiency children in the teaching group proved able to use the definite article consistently, and gradually improved their use of the indefinite article in the second cycle to refer to objects or characters introduced for the first time. Lower proficiency children in the same group improved their use of the definite article in omission errors, but continued to struggle with the indefinite article, which was either excluded from their texts or substituted by the overuse of the definite article. The non-teaching group remained off target for accurate usage. These findings conform to developmental trends reported in empirical studies of child L1 and child and adult L2 acquisition (Brown, 1973; Lardiere, 2004; Zdorenko & Paradis, 2008; 2012). Children with L1 English have been found to make mistakes with articles until around 4 years of age, principally by supplying definite articles inappropriately in indefinite contexts (Emslie & Stephenson, 1982, Hickmann & Hendriks, 1999). Both child and adult L2 learners also make similar errors of omission and substitution and the definite article is generally acquired before the indefinite article (Zdorenko & Paradis, 2008). This is attributed to the fact that definite articles are inherently less complex than indefinite articles and easier to insert into appropriate contexts, since they do not take number and mass/count distinctions into account (Lardiere, 2004). Although increased accuracy in the use of articles after feedback provision has been reported in several studies with older ESL learners (Bitchener & Knoch, 2010; Sheen, 2007), it should be recalled that in this research, these L2 features were specifically targeted by the feedback learners received, and were thus more likely to be noticed and acquired. Once again, the role of instruction seemed to be central in boosting the impact of the model texts on article acquisition in the case of our child L2 learners.

These small signs of development that emerged in the children's written texts might be explained by the theory of learning as a U-shaped curve (Kellerman 1985, in Izumi 2013). According to this hypothesis, although learners generally make fewer errors early on in the learning process when their production consists mainly of memorized chunks of language, the appearance of errors in their output increases when they begin to internalize linguistic forms and use them creatively to produce original messages. Consequently, fluctuations in the accuracy of the learners' written output with particular grammatical

forms over the five months of the study might be associated to the continual restructuring of their IL system and the internal changes taking place in their stored knowledge. Evidence that this restructuring process seems to be at work in the present study can be traced to these minor improvements in the L2 that were visible in some of the children's written output over time. It is also true, however, that the developmental process of these younger learners was slow and that WCF in the form of model texts did not seem to make as much of an impact on their linguistic knowledge as it did on their knowledge of lexis and spelling.

At early stages of second language learning, learner-internal factors including children's limited L2 knowledge, developmental constraints and psycholinguistic processing mechanisms exert a stronger influence on the development of their L2 grammatical knowledge than external evidence provided in the form of model. Support for this idea can be found in the shallow structure hypothesis (SSH), which proposes that input processing in the second language is fundamentally different from L1 processing. Clashes and Felser (2006) claim that during parsing (segmenting the input string into meaningful chunks and determining the relations the chunks bear to the main verb), adult L2 learners engage in shallow processing due to the unavailability of sufficiently detailed grammatical knowledge in the L2. As a result, when processing sentences, their structural parser relies more on lexical-semantic cues, associative patterns of meaning and form, and prior knowledge, in comparison to the full syntactic parsing realized by child and adult native speakers which is nourished by their implicit knowledge of grammatical rules and principles. It follows, then, that the representations child L2 learners compute during input processing are a reflection of their impoverished interlanguage grammars. This may equally explain why the children were able to successfully comprehend the model texts semantically but mostly appeared to ignore the syntactic and morphological properties of the input. Effects of shallow processing were apparent in the children's noticing and comprehension of sentences from the model, which they were subsequently unable to encode in writing as a result of the inadequacy of their L2 grammars. A clear example was their difficulty with the possessive -s structure, as in 'The cat of the witch look the juice' from 'The cat is watching the witch's food' or 'The cat is drinking the orange juice the witch' from 'the cat drinks the witch's orange juice'. This may also be a reflection of the children's lack of developmental readiness to acquire one of the most complex structures in the alleged natural order sequence (Dulay & Burt, 1974).

However, it is also true that the children were able to use the model more profitably to recall phrases or chunks of language that they extracted directly as unanalysed wholes. Some of these chunks were used acceptably in their written output and others appeared as compressed versions of longer sentences. The language chunks that the children noticed and retrieved, probably from memory (Storch & Wigglesworth, 2010), enabled them to use syntactic features such as the be copula ('He is very excited'), the third person -s morpheme ('turns into a cat') and prepositional phrases ('in his laboratory') to upgrade their written output. Low proficiency pairs had greater difficulties in recalling language chunks successfully. They were unable to fully remember language from the model and tended to produce simplified versions of sentences, such as 'She magic and cat' from the sentence 'Then she has an idea and uses her magic with the cat' or 'Finally the dog attacks an cat' from 'Finally, the scientist's dog wakes up angrily and attacks the cat'. This finding partly coincides with results reported by Coyle and Roca de Larios (2014) whose child L2 learners produced fragmented and idiosyncratic constructions based on the incorporation of chunks from the model texts they were exposed to. These authors found that children at low proficiency levels were often unable to process the challenging language contained in the model when it was not contingent to their knowledge of the L2 and suggested that to be pedagogically relevant, feedback should be tailored closely to learners' needs. Given that the children's incorporations from the model in this study were less distorted and more comprehensible, our results confirm the advantage of synchronizing feedback with learners' proficiency levels in order to promote better chances of noticing.

The incorporation of chunks of language is one of the unique characteristics of model texts as a feedback technique. While error correction provides specific and localized information and reformulations are compelled to remain within the limits of the learners' original language output, model texts offer a range of possibilities that can amplify learners' experience of language and provide additional ideational content. This is important, as the active reproduction of appropriate and correct exemplars of language is held to be a competence-expanding phenomenon. The use of chunking as a processing strategy is supported by usage-based theories of language acquisition, which maintain that language learning is, in essence, the learning of formulaic sequences. From this perspective, formulas serve as a database for syntactic development, which takes place through the learner's continual abstraction of linguistic rules and principles from the

form-function patterns, which they experience in language usage (N. Ellis, 2012). Myles (2004) and Myles, Mitchel and Hooper (1999) provided data to show that morphemic sequences that went beyond learners' grammatical competence were common in early L2 production. They proposed that the use of chunks and linguistic development were clearly correlated. Using the corpus data of beginner learners of French, Myles (2004) observed that the most advanced learners in her study were those who actively worked on the complex chunks they had picked up from the input until their developing grammar eventually caught up. Conversely, learners who were unable to memorize chunks developed an interlanguage that remained verbless (Myles, 2004, p 153). The connection confirmed in our research between the model texts and the children's incorporation of language chunks in their written output is important as it shows how this particular type of feedback can provide learners with language data for immediate communicative use, which, with further exposure and enhanced by instruction in feedback processing, might gradually be 'unpacked' and used for grammatical development.

In general, however, the pairs' difficulties in noticing and encoding morphological and syntactic features from the models lends further support to the need for teachers to diversify the types of feedback used in the classroom. With younger learners, grammatical errors in their written output need to be made more perceptually salient by explicitly and unequivocally drawing attention to them through more explicit feedback techniques such as direct error correction (Coyle & Roca de Larios, 2014). Left to their own devices, children will not actively search out the solutions to their linguistic problems in model texts, especially when they may not even be aware that a problem exists. In this sense, the use of models alone, without prior instruction in feedback processing, or alternated with other more explicit WCF techniques, will do little to advance the development of children's formal L2 knowledge.

V.2.2.3. Development of textual cohesion

Improvements in the text structure and cohesion of the written narratives of pairs in the instructional group also enhanced the overall quality of their writing in the second multi-stage task. Rather than simply describing the pictures, promising attempts were made to narrate the story as a sequence of events linked by connectors. In L1 acquisition, both these aspects of storytelling are considered relevant: the ability to narrate the story

structure and textual cohesion. Hickmann (2003) has shown how children gradually develop textual cohesion in discourse in their first language by incorporating into their stories appropriate references to person, time and place. This has been taken as an indication of quality in narrative performance (Struthers, Lapadat & MacMillan, 2013). In their narrative development in the second language, the learners in this study appeared to be at an initial phase in which they used the sequential order of discourse to convey temporal relations among events (Ortega, 2009b). For this reason, the coordinate conjunction ‘and’ was used abundantly in their texts in the first cycle, especially by low proficiency pairs. Higher proficiency pairs in the teaching group proved initially to have a wider range of discourse markers at their disposal, including adversative connectives (but), as well as temporal connectives, which they wrote both in the L2 (after, then, before, now) and the L1 (mientras, entonces). Unsuccessful attempts were also made at using temporal phrases by pairs of both proficiency levels in the non-teaching group (in the night; in the evening).

Discourse markers were specifically targeted in the instructional sessions and some progress was identified in the texts of all the pairs in the teaching group who introduced new temporal connectives (finally, suddenly, one day) into their story narratives in the second cycle, as well as a causative connective (because) in the case of a high proficiency pair. The children in the non-teaching group had mixed success in incorporating the temporal phrase ‘one day’ and the connective ‘finally’ into their revised texts after exposure to the model. Instruction was successful, then, in raising the children’s awareness of story structure and of connectives in the model, and in helping them to integrate the latter appropriately in their rewritten texts.

Compared to lexis and grammar, which are well-researched areas in second language acquisition, few studies have focused on the development of narrative cohesion in children’s written output in FL settings. In contrast, there is a much more substantial body of research on children’s storytelling performance in their first language. In relation to the use of connectives in particular, an early study of children’s written L1 narratives found that conjunctions were used infrequently in the narrative texts of 8 and 11-year-old Dutch-speaking children. Coincidental with our findings on children’s written narratives in the L2, the most frequently occurring conjunctions identified by the authors were those that also occurred in speech (and, but, so, then, after that). Temporal conjunctives were

also used more often by the older children to highlight the relations between unfolding events in the picture story sequence. This led the authors to assume a developmental trend in the construction of cohesive texts (Yde & Spoelders, 1985). Conjunctions, except for excessive use of the word ‘then’, were also infrequent in the written narratives of 9-year-old English-speaking children in Canada (Cameron, Lee, Webster, Munro, Hunt & Linton, 1995). Crowhurst (1987), however, found a decrease in the use of temporal conjunctions in older children, particularly ‘then’ and ‘so’, which was attributed to an increase in the variety of conjunctions used. Despite these mixed results, it seems clear that in L1 narratives the use of cohesive devices evolves with writing development (Struthers et al., 2013).

In the field of second language acquisition, the concurrent consideration of morphosyntactic and discourse features in the production of oral narratives was the focus of a study with Spanish/Catalan learners of different ages, including children as young as 8 and 11-years-old (Álvarez, 2006). This research identified a series of stages through which learners’ narrative development emerged systematically in connection with developments in morphology and syntax. Interestingly, temporal discourse markers generally appeared in stage seven (of nine), when learners were found to combine bare lexical verbs with use of the third-person-s, together with the emergent use of the indefinite article and the pronominal system. This coincides with the appearance of these features in the written narratives of the high proficiency children in our study, especially those of the teaching group.

A more recent longitudinal study of the oral narratives of Chinese L1 EFL learners from the age of 9 until they were 12-years-old, found that these children increasingly expanded their production of cohesive devices as their knowledge of the FL improved (Goto Butler, Liu & Kim, 2017). Like the pairs in our study, these children relied initially on the use of coordinate and adversative connectives, although, in contrast to our findings, their use of temporal markers was less frequent and still exceptional even at the age of 11-12-years-old. Their reliance instead on temporal phrases was linked to the influence of the children’s L1. What the authors found, however, was that the types and frequencies of the cohesive devices deployed by the children expanded at older grade levels in both languages as they matured cognitively and linguistically. Aside from the difference in the time spans of the two studies (five months in the present study in comparison to three

years) the general developmental trends identified by Goto Butler et al. (2017) are not dissimilar to our findings. Temporal discourse markers were used more by the higher proficiency pairs in the teaching group who were aged around 11 at the time, coinciding with the increase in their use by the Chinese children in the third year of the research when they were roughly the same age. Similarly, causative connectives were used infrequently by the Chinese children, regardless of grade levels, and by only one of our high proficiency pairs. This is probably because the organization of events in a hierarchal fashion requires greater cognitive and linguistic sophistication (Berman & Slobin, 1994, in Goto Butler et al. 2017). Although the identification of long-term acquisition patterns was beyond the scope of this research, we are optimistic that continued instruction might speed up the rate, if not the route, of children's use of discursive features in their written narratives. In any case, it is important to note that since cohesion is a linguistic phenomenon, any development in the use of cohesive devices also reflects linguistic development in the second language (Möller, 2015).

Previous research on WCF has focused mainly on the short-term effects of a single feedback intervention with a pre and post-test design. However, having learners perform writing and feedback tasks on two occasions three months apart has allowed us to see beyond a static snap shot of learners' language L2 use to better appreciate how language develops over time. In this sense, the two cycles of the multi-stage task, involving four written texts and two feedback processing tasks has provided us with longitudinal data that has helped us to detect the small developmental changes which result from learners' use of specific trajectories. De Bot and Larsen Freeman (2011) have suggested from a dynamic systems perspective that when learners perform a series of similar tasks, with every step in the process, some change occurs at a micro level as learners' previous knowledge interacts with their linguistic resources available at the time so that every specific action influences qualitative long-term change in the learners' L2 system. In this sense, development is conceived as a series of emerging but unstable patterns, which gradually evolve in the direction of the target language. In the context of the present research, this idea might be extended to include the sequential actions learners engage in and the outcomes they produce as an intrinsic part of every trajectory they follow. The interaction between the learners' initial output, their noticing from the model and subsequent output, as a result of following specific trajectories at certain points in time, together with the array of additional influences on their developing L2 system, is what

leads to the differing and variable degrees of progress and/or inactivity in the lexical, morphosyntactic and discursive development shown by the pairs in both groups.

V.2.3. Learners' noticing from the model texts: The role of proficiency

At the heart of the trajectories identified in this study, noticing and understanding the language provided in model texts proved to be decisive in driving forward the learning process. However, as we have seen, not all of the children were able to do this successfully, so that their noticing was often incomplete or inexistent. From an information-processing perspective (Mc Laughlin, 1983; Skehan & Foster, 2001) it is posited that young second language learners, as limited capacity processors, may experience cognitive overload when processing feedback, since the attention they give to meaning may exhaust their already depleted cognitive resources and restrict attention to form (Izumi, 2003). This seemed to be the case in the unproductive behaviour shown during the feedback task of particularly low proficiency pairs whose difficulties with processing the models were incremented by their lack of previous L2 knowledge. This constrained not only what they were able to notice from the feedback, but also their ability to fully understand the target of their noticing (Qi & Lapkin, 2001). These pairs were often unable to do more than write a list of the lexical differences they had identified from the model, without adducing reasons to account for them, and so incorporated noticed items in their rewritten texts sporadically rather than in a planned or purposeful way. Their collaborative dialogues suggested an almost complete absence of metalinguistic knowledge. Only the higher proficiency pairs in the teaching group focused on grammatical words in the model, including possessive adjectives ('We haven't put 'her', her orange juice, that was 'su'); the indefinite article (The cat drinks, a cat drinks (they write 'a') or verb forms ('Let's see, we wrote 'eating' and not 'eats') which seemed to indicate some emergent awareness of the formal significance of these L2 features.

After the second exposure to the model, the narrative texts of pairs in the non-teaching group contained erroneous phrases that were identical or practically identical to the original versions. In rewriting their stories, the learners adhered to their original agendas and so continued to draw on their own deficient linguistic resources rather than on the ideas and language in the model text. Their failure to fully take advantage of the model appeared to be the result of a superficial approach to feedback processing, rather than a

consequence of overly complex language in the model itself. This was evident in their random underlining of fragments or chunks of the model ('It's not very similar, underline it all), or in their flawed similarity judgements, ('There is a loud noise and a bright flash of light'. Well, I wrote all of that except 'and'). The children also dissected the model into individual words that were not always understood, as in ('Underline 'the whole' as I don't know what it means. 'Suddenly', we don't know that either'; 'Conducting; what's that?'). This tendency to visually scrutinize the model in search of perceptual similarities and differences led the children to isolate words from their context, which reduced their chances of engaging in deeper analysis of language form.

In contrast, after the instructional intervention, pairs in the teaching group showed a more focused concern with locating specific linguistic differences in the model. This led to a slight increase in the noticing of formal features of the model by both low and high proficiency learners, which they manifested in their collaborative dialogues (e.g. 'English people write sleeping with 'e' and we wrote it with 'i'; 'Then, entonces, we didn't write that connector'; We forgot to put the third person -s). This small improvement in the quality of their noticing and enhanced awareness of form provides evidence in support of the proposal outlined by Sachs and Polio (2007) that gradual changes in learners' meta-awareness might also constitute second language development. In this respect, the authors advised that between perfunctory and substantive noticing there may be differing degrees or levels of awareness, and that evidence of learners' subjective insight into language (by analysing, comparing and attempting to understand L2 forms) might be a more fruitful indicator of the quality of noticing they engage in.

Izumi (2013) has suggested that at early stages of L2 development simply noticing forms in the input is sufficient for establishing initial form-function mappings. For the low proficiency pairs, their noticing was almost exclusively lexical. This would explain their slower progress in the development of grammatical knowledge in comparison to the higher proficiency children in the instructional group whose very slightly more sophisticated L2 knowledge probably enabled them to establish form-function mappings more quickly when supplied with appropriate L2 input. This coincides with the results of previous research on models and reformulation, which has shown that learners' responses to feedback are closely related to L2 proficiency (Hanaoka, 2006b, 2007; Lapkin, Swain & Smith, 2002; Qi & Lapkin, 2001). Hanaoka (2006b, 2007) for example, reported that

less proficient Japanese EFL learners had greater difficulty in noticing from model texts than from reformulations of their own output, and suggested that this is because noticing changes in ones' own text is easier than actively seeking out differences, as occurs with a model. On the other hand, these learners also incorporated more features from models than reformulations, leading Hanaoka (2006b) to propose that noticing from models, when successful, may leave a deeper memory trace. In general, there is consensus among researchers that in order to advance in their knowledge of the L2, greater in-depth understanding of the gaps between the L2 and the learners' interlanguage is required (Qi & Lapkin, 2001). Helping learners to better understand the nature of the differences they notice between their own writing and the feedback would seem to be paramount. Hence, the crucial role played by instruction in feedback processing.

Success or failure in noticing from the model seemed to have been doubly determined, then, by both the learners' previous second language knowledge and the way they approached the feedback comparison task. Their lack of procedural knowledge of how to perform the task also seems to have been an important influence on their noticing. The degree of difficulty involved in a task is held to depend on the demands made on the learner's attention and memory by the task structure (Robinson, 2010). Applying this concept to a feedback comparison task, a highly structured task in which learners are provided with additional support in the form of a noticing chart or a checklist, might help direct their attention towards specific features of the feedback, thereby facilitating noticing. On the contrary, a low task structure without added support would leave the comparison task open and unguided, thus increasing its complexity, as the learners themselves would have to determine how to proceed. This would place extra demands on their already limited attention. In these circumstances, it is highly likely that attention would be distributed more randomly. In the present study, before the instructional treatment, pairs were free to approach the feedback comparison task as they liked. The only recommendation they received was to find differences between the model and their own writing. This meant simultaneously alternating their attention between the model text and their original texts while attempting to retain the information in their short-term memories. The degree of complexity this involved might have increased the cognitive demands of the task, especially for low proficiency learners, and overloaded their attentional capacity so that they were unable to fully process or internalize the morphosyntactic data in the model. This low level of processing meant that possibilities

for retention would have been reduced. (Leow, 2015). Conversely, learners who were subsequently trained in procedural task performance seem to have developed greater automaticity in analysing the model, which then freed competing resources to allow for increased attention to language.

V.2.4. Collaborative writing and feedback processing

The children's dialogues during the multi stage tasks in both cycles also provide insights into the benefits of collaborative writing and feedback analysis with a group of learners who have previously been excluded from research in this area in the field of second language acquisition. The disposition and willingness to help each other shown by the different pairs while jointly discussing the writing of their picture story narratives and processing the model texts offers evidence to show that even these inexperienced language learners were capable of working together fruitfully to encode meaning in the L2 and to analyse the feedback in search of solutions to their linguistic problems. However, it is also true that the children's proficiency levels influenced the extent to which their collaboration was successful. While most of the pairs deliberated at length over the model text, at least in the first cycle, either confirming or disagreeing with their partner's contributions, the lower proficiency learners had greater difficulty in providing support for their partners given their own limited knowledge of the L2. With fewer linguistic resources to pool, they were unable to fully take advantage of the feedback provided. These findings are in line with previous work into pair dynamics (Lesser, 2004; Storch, 2002, 2005, 2007; Storch & Wigglesworth, 2007, 2010; Storch & Aldosari, 2013; Wigglesworth & Storch, 2010; Watanabe & Swain, 2007), which has identified a whole range of individual variables including personality, L2 proficiency, self confidence, goals and motivation, that impact on learners' engagement in collaborative writing. Although our research did not examine in detail the patterns of pair interaction in the children in both groups, the data did provide some indication that children's proficiency levels seemed to have influenced their ability to help each other.

Research on the relationship between pair interaction and proficiency levels has still to provide conclusive evidence on how learners' L2 competence might influence the learning potential of their collaborative talk. Lesser (2004) has suggested that low proficiency learners might simply be unable to profit from pair work, even when matched

with higher proficiency partners, since they may be too linguistically immature to use explicit metalinguistic knowledge provided by partners in the course of problem-solving dialogue. However, Storch and Aldosari (2013) have claimed that dyadic relationships are of greater importance than proficiency levels when pairing learners and that even lower level learners can be highly collaborative. Research on collaborative writing with older learners (Storch, 2005, 2007; Watanabe & Swain, 2007) has also provided evidence in support of the model of dyadic behavioural patterns originally proposed by Storch (2002), which suggests that equality over task management and mutual engagement are more influential than proficiency levels alone in determining the learning opportunities afforded by collaborative writing tasks.

Research into children's collaborative work is scarce. However, a study comparing the interactional patterns of young Chinese EFL 9-10 year-old learners with slightly older 11-12-year-olds on two oral communication tasks performed both in their L1 and L2, found that the younger pairs contributed equally to the L1 task, showing a dominant/dominant tendency, whereas they remained just as equally passive during the L2 task. On the contrary, the older learners showed a collaborative pattern in both languages (Butler & Zeng, 2015). This leads the authors to suggest that both age and children's general L2 proficiency level would appear to impact on their willingness and ability to collaborate. This reminds us that findings from research with adult learners cannot be easily extrapolated to younger populations. It also suggests that young learners may need greater help and guidance on how to work together usefully on collaborative tasks. Research carried out in L1 classrooms in the UK has provided promising findings in this respect. In a study of collaborative writing with mixed-ability monolingual children, Yarrow and Topping (2001) describe the improvements in writing and increased self-esteem shown by learners who were paired with more competent peers to form expert/novice dyads and trained in a six-stage programme of structured interaction involving the generation of ideas, drafting, reading, editing, text production and evaluation. The roles assigned to both members of the pairs, either as Helper (tutor) or Writer (tutee) entailed a set of questions and prompts, which offered differing degrees of metacognitive support at each stage of the writing process. Implementing structured peer interaction, particularly in feedback processing tasks, would seem a worthwhile avenue to explore in an EFL context. Similarly, working with different talk partners over longer periods of time might also help avoid complacency among learners. Examining longitudinal data on patterns of

collaborative dialogue with learners of different ages might be a fruitful area for future research to enquire into.

V.2.5. The mediating role of instruction in feedback processing

Previous research on the use of models with children (Cánovas et al, 2015) has emphasized the need to assist younger learners with the linguistic and cognitive processing demands of feedback tasks by providing them with instruction contingent to their developmental needs. Support for this proposal is an important finding of the present study. The longitudinal research design involving two writing cycles separated by a six-week teaching period during which one group of children were guided in the analysis of model texts while a second group continued with regular EFL lessons, enabled us to gather evidence in support of the positive impact of feedback instruction on the language-learning potential of written corrective feedback. As we have seen, this evidence comes from the triangulation of various performance measures including the children's implementation of specific writing and feedback trajectories, the analysis of their written products at four different time periods and the qualitative description of their second language output focusing on lexical, grammatical and discursive developments. Both high and low proficiency pairs in the instructional group benefitted from having the teacher demonstrate on repeated occasions how to perform the feedback comparison task and engage them in metalinguistic reflection on the content, language and structure of the models. As a result, they engaged in trajectories with greater language learning potential and were better able to analyse the model text the second time round. Thus, they noticed and incorporated the solutions offered by the model for problems they had been unable to solve while producing their original text (T12) to a greater extent than they had in cycle one. They also noticed and incorporated more frequently new lexis and chunks of language (T3) and alternative expressions (T20b), all of which allowed them to upgrade their written texts. Accumulated practice and better procedural knowledge of task performance seemed to ease the processing demands of the feedback comparison task, reducing its complexity and impacting positively on their noticing processes, while the emphasis on the morphological and syntactic features of the models raised their awareness of the L2. This enhanced noticing then translated into improvements in their written output and to development of their second language knowledge.

In line with researchers who have advocated that learners should be trained in how to analyse feedback (Allwright et al, 1988; Cánovas, Roca de Larios & Coyle, 2015; Qi & Lapkin, 2001; Yang & Zhang, 2010), the teacher's interventions in drawing the children's attention to linguistic and textual differences in the imperfectly written texts of their peers in comparison to model texts, proved valuable in helping them to make better use of the feedback. The question is, then, what was it about the instruction that enabled the children to achieve this? The answer, we believe, lies in the social dynamics of the classroom discourse, which due to the children's lack of metalinguistic awareness became a forum for teacher-led collective 'languaging'. Essentially, the children were guided procedurally in how to go about analysing diverse features of the model text while simultaneously assisted in the development of metalinguistic knowledge through a process of dialogic interaction with the teacher. The role of the teacher in scaffolding the children's noticing from the model and in providing metalinguistic explanations for errors in the sample texts over a sustained six-week period seemed to have raised their awareness of form-function mappings and strengthened their grammatical, lexical and discursivel knowledge, thus priming them to become more perceptive and cognitively disposed when handling feedback in subsequent tasks. This finding is in line with the assertion made by Allwright et al. (1988) in connection with the use of reformulations. For these authors, classroom discussion of the reformulated texts was the 'corner stone of the whole reformulation strategy' (p 238). The participants in Allwright et al's (1988) research reflected upon the grammatical and textual features of their own and other learners' writing and gradually modified their written texts in the direction of more target-like output. As in our study, there was no detailed or pre-planned syllabus. Instead, the sessions took shape from the problems the learners themselves pointed out in the course of the on going interaction. This led the authors to claim that class discussions might be more influential than feedback itself in leading learners to improve their writing.

Research inspired by sociocultural psychology has long advocated the importance of dialogic interaction in which the joint efforts of teachers and learners combine in shaping the development of knowledge and understanding in the classroom (Escobar Urmeneta & Evnitskaya, 2014; Mercer, 2008; Mercer & Howe, 2012). Mercer (2008) has suggested that 'dialogues with teachers, and with their fellows, enable students to consolidate and develop their understanding over time, so that they can build new understanding upon the foundations of past experience' (p. 56). Further support for this idea can be found in

research on oral and written ‘languaging’ with written corrective feedback, which has shown that learning and the use of language as a cognitive tool are closely intertwined. Studies carried out with adults (Qi & Lapkin, 2001; Sachs & Polio, 2007; Suzuki, 2012; Storch & Wigglesworth, 2010) adolescents (Swain & Lapkin, 1995, 2002) and children (Simard, Guénette, Bergeron, 2015) have shown that whether individually or collaboratively, opportunities to reflect on the L2 through the act of talking (or writing) about it may deepen learners’ understanding and knowledge and prove effective for promoting linguistic development. The metalinguistic reflection that takes place during ‘languaging’ is considered to be the observable manifestation of the higher levels of language awareness that are required for language learning (Simard, 2007). As a result, engaging in effective ‘languaging’ about written corrective feedback can help learners to gain insights into the rules and principles underlying the surface linguistic features they notice. This requires going beyond the mere detection of surface differences between written output and WCF to engage in deeper levels of processing or noticing at the level of understanding (Leow, 2015).

The ability of learners to reflect on the L2 is mediated by a number of factors including proficiency (Qi & Lapkin, 2001), the ability to verbalize explicit L2 knowledge (Brooks, Swain, Lapkin & Knouzi, 2010), and previous experience gained from metalinguistic reflection (Simard, French & Fortier, 2007). Qi and Lapkin (2001) suggested that teachers might need to train especially low level learners to understand the nature of the gaps they noticed between their own writing and reformulated feedback. An example of successful training in the development of metalinguistic awareness was reported by Brooks et al. (2010), who highlighted the difference in the ability shown by two intermediate learners of French to accurately use the aspect of voice in their L2 output and their lack of understanding of the concept itself. By engaging in specifically planned ‘languaging’ tasks over a week both learners gradually developed their conceptual understanding of this particular linguistic feature. Similarly, using evidence from children’s written ‘languaging’ in journals over a three month period and performance data on grammar and vocabulary tests, Simard et al. (2007) suggested that children’s conscious reflections about language helped them to develop a better understanding of the L2. In a recent study which examined teenagers’ understanding of corrections following exposure to direct and indirect feedback (Simard et al., 2015), the authors claim that misunderstanding or only partially understanding the intent of corrective feedback, which occurred more frequently

with indirect rather than direct WCF, was unlikely to contribute to the learners' L2 development. Consequently, helping learners to use and to understand specific types of feedback would seem to be necessary in young learner classrooms. The present study has shown that this is possible when teachers scaffold learners' noticing and metalinguistic reasoning in the context of feedback processing tasks involving the use of model texts.

The connection between the instructional treatment implemented in our study and improvements in the children's written output and L2 development is further supported by theory and research on form-focused instruction (FonF) (Doughty & Williams, 1998; Ellis, Basturkmen & Loeven, 2001, 2002; Long, 1991). Attention to language form that arises within the context of meaning-based task performance, as in this study, is held to be useful for promoting second language acquisition on a number of accounts. These include including helping learners to (i) identify and/or consolidate form-function mappings by noticing specific linguistic features in the input (Ellis, 2005); (ii) notice and repair persistent developmental errors that might otherwise be ignored (Long, 1991); (iii) overcome the limited processing capacity that leads learners to prioritize meaning over form (Van Patten, 1990), and (iv) enhance learners' awareness of the grammatical rules underlying the L2 system through metalinguistic reflection on language.

Empirical support for the beneficial effects of attention to form comes from studies with both adults and with younger learners. In a series of studies on classroom interaction in ESL and EFL settings, Loewen (2000, 2005) found that ESL students who demonstrated successful uptake of the language forms they had attended to during focus on form episodes in meaning-focused lessons could accurately recall the targeted linguistic features on tailor-made post tests 60% of the time immediately after the test and 50% of the time after two weeks, thus providing robust evidence of second language learning. In investigating spontaneous attention to form with younger learners enrolled in intensive ESL instructional programmes in Canada, Lightbown and Spada, (1990) found that teachers who consciously raised children's awareness of specific features of the L2 ('have vs 'be' as presentational forms; plural-s; progressive-ing, etc.) through form-focused instruction during communicative language teaching helped them achieve higher levels of accuracy in the use of these features in obligatory contexts during an oral communication task. Similarly positive outcomes were found for less obtrusive focus on form instruction that targeted the lexical acquisition of nouns and adjectives by young

beginner learners of Japanese (Shintani, 2015). The opportunity for learner-initiated output with the teacher during meaning negotiation was found to be decisive in facilitating the children's lexical knowledge. Collectively considered, these studies emphasize the benefits that conscious attention to form during communicative activities can have on interlanguage development.

In line, then, with cognitive theory and research which advocates a key role for noticing with understanding and of form-focused instruction in second language learning, and with sociocultural theory and research which sees 'linguaging' as a means of fostering such awareness, the findings of our study clearly point to the need to introduce consciousness raising activities using model texts and other more explicit forms of feedback to help younger and less proficient learners develop their meta awareness of language as a system (Sachs & Polio, 2007). Simply prompting learners to identify similarities and differences between their own writing and a model text may lead to minor improvements in accuracy, but it is no guarantee that they will develop the higher levels of awareness that can lead to L2 acquisition. Without the experience and knowledge accumulated in the teaching sessions, children in the non-teaching group struggled to surpass the surface detection of linguistic features in the input and so were unable to store and retrieve them for future use. On the contrary, by actively guiding learners' noticing using model texts and filling in gaps in their L2 knowledge through jointly constructed metalinguistic reasoning on noticed forms, the teacher helped the children in the instructional group to use trajectories with greater language learning potential. We would argue, then, that instruction on feedback that ensures that what is noticed is also understood and processed at higher levels of awareness, is important in making feedback available for acquisition (Manchón, 2011a). It is our contention that whole-class 'linguaging' during guided noticing and form-focused reflection on WCF can play a key role in improving the quality of learners' feedback processing, written production and L2 development.

V.2.6. Children's affective engagement with the task

Apart from learners' proficiency levels and the instructional treatment, the results of the present study are undoubtedly influenced by a number of additional factors that should be taken into consideration when accounting for children's feedback processing. One of the most crucial is encompassed in the idea of engagement. The notion of learner

engagement with written corrective feedback has received increasing attention from researchers who have analysed the cognitive, behavioural and affective responses shown by learners towards different types of feedback. Recently, Han and Hyland (2015) have proposed a multidimensional framework of learner engagement, which integrates these three dimensions and constitutes an interesting attempt to reach a more thorough understanding of the link between feedback and learning. The case study profiles they present of four Chinese EFL college students highlight the dynamic and complex relationship that exists between engagement with feedback and learning outcomes. These learners' beliefs about writing and their differing attitudes towards the feedback they received, which ranged from emotional disappointment or overconfidence to intentional disengagement, were found to affect the relative success of their cognitive processing and revision behaviours. In this respect, the study advocates the need for research into feedback to consider the interrelatedness of individual, contextual and cognitive factors when considering learners' responses to feedback. This perspective might fruitfully enable us to interpret the findings obtained with our younger learners.

The children's engagement with the writing and feedback analysis tasks also seemed to be a determining influence on their learning outcomes, as their performance over time was undoubtedly influenced by affective factors. This was visible in a number of ways including the shorter time spent on task, a reduction in the length of their written output in comparison to the first cycle and the increasing brevity of their collaborative dialogues. As time went on, the discussions of all the pairs tended to be shorter and focused primarily on completing the tasks as quickly and with as little effort as possible, which seemed to suggest that their levels of interest in the task had declined. With younger learners, motivation for second language learning is known to be determined more by classroom practice than by an intrinsic desire to learn the language (Nagy, 2009). Since motivation is also dynamic and subject to constant change (Dörnyei, 2001), the onus is on the teacher to implement tasks, which children perceive as relevant and interesting. In the case of writing, this can represent a genuine challenge, as writing tasks do not enjoy the same popularity among children as oral communication tasks that are perceived as more fun and less demanding (Nikolov, 2009; Shak & Gardner, 2008). Although the reduced time invested by some of the pairs dedicated to the multi-stage task after the instructional period might also be attributed to greater automaticity and fluency in task performance,

it clear that the children's interest in writing, analysing a model and rewriting another picture story in the second cycle was lower.

Three reasons might be offered to account for this drop in interest levels. Firstly, it is possible that the language-learning potential of the multi-stage task was obscured for the children who had not participated in the instructional treatment and who simply saw it as the tiresome repetition of a task they had already completed. This highlights the implication of helping children to form appropriate task representations. In this case, the loss of interest by the children in the non-teaching group may possibly have been transformed into more suitable task goals, had the pedagogical value of the task has been fully comprehended.

A second reason for the children's seeming indifference to the writing task might be related to the notion of task repetition. In general, the repetition of oral (Bygate, 1996) and written (Manchón (2014) tasks is believed to be useful for helping learners to move from semantic to syntactic processing of the second language, by redirecting attention away from task procedure and the expression of meaning and fostering attention on the formal aspects of the language. Yet while there is abundant empirical evidence to suggest that the repetition of oral and written output can lead to improved performance, the bulk of this has been carried out with adult learners (eg. Bygate, 2001; Nitta & Babba, 2014). Research on task repetition with children is uncommon and has focused almost exclusively on oral production (Mackey, Kanganas & Oliver, 2007; Pinter, 2010; Swain & Lapkin, 2008; van de Branden, 1997) and oral comprehension tasks (Shintani, 2012). Only Simard et al. (2015) described younger learners' written reflections on a series of repeated writing and feedback tasks.

Existing studies on oral tasks have provided evidence that performing the same or similar tasks can impact positively on the children's linguistic performance. Swain and Lapkin (2008) found that a sequence of tasks involving roleplay, reformulation and repeated roleplay enhanced the lexical acquisition of four pairs of French immersion learners. Pinter (2010) reported an increase in oral output and improved grammatical accuracy in two 10-year-old Hungarian learners who performed a 'spot-the difference' task over three sessions, while van den Branden (1997) noted that 11-year-olds who repeated a picture description task used a greater range of vocabulary on the second occasion. Mackey et al.

(2007) suggested that familiarity with task content and procedure impacted positively on the conversational patterns of 7 and 8-year-old ESL learners. Repeated participation in 'listen and do' tasks was also found to enhance the lexical knowledge of young beginner Japanese ESL learners (Shintani, 2012).

Surprisingly, given children's limited attention span and constant desire for variety and change, no important trade-off effects for task repetition on engagement with the task were reported in any of the oral studies. It is also true, however, that they were mostly carried out over short time spans ranging from a few days to a few weeks. However, Simard et al (2015) implemented a longitudinal design over a period of four months with writing tasks and reported different results. It is perhaps the sustained activity with writing rather than speaking tasks that accounted for the lack of interest and manifest dislike of writing they observed in some of their learners' attitudes towards the tasks. They report that: 'For some of our teenage participants, learning ESL was a chore more than a choice, and writing, and then having to revise, was seen almost as a punishment' (p 250). Although the learners in our study did not openly display such negative emotional reactions, their investment in the second multi-stage task was not as intense as in the first one.

A third and final reason for this decline in interest shown by the children in our study might also be explained by the time schedule of the research, as the second multi-stage task took place in September immediately after the long summer holidays. By this time, the older children in the mixed grade 5/6 class had left the school and returned specifically in the afternoons to complete the data collection process. Their motivation was, therefore, evidently lower than when they were still pupils at the school. In this sense, the longitudinal nature of our study enabled us to witness a change in the learners' attitudes over time. These findings are important, as most existing research on models has not offered insights into the impact of feedback tasks on learners' affective engagement in task performance over a longer time period. These insights suggest that it might be more beneficial for teachers to vary multi stage tasks by introducing a greater variety of written genres and different feedback types to balance levels of challenge and interest with younger learners.

V.3. Pedagogical implications

This section describes the pedagogical implications that emerge from this doctoral thesis including the language-learning potential of model texts, the need for form-focused instruction in combination with feedback processing in young learner classrooms, as well as practical suggestions for implementing models in the classroom.

The language learning potential of models as a written corrective feedback

The results of this study illustrate the need for young EFL learners to be given opportunities to write in the L2 and to receive and process feedback on their writing in order to advance in their L2 development. As a rule, many specialist EFL teachers in primary education adhere to published textbooks, which, under the guise of communicative language teaching, engage children in reading, vocabulary and grammar exercises, related (in the best of cases) to the topic in hand. Writing is generally left out of the equation. It is important, therefore, for teachers and future teachers to become more aware of the benefits to be gained from writing practice and feedback processing, as well as of the theoretical implications of writing-to-learn (Manchón, 2009; 2011b). If teachers understand more fully how writing and feedback processing can contribute to learners' second language learning, they are more likely to integrate these tasks into their classroom practice. This thesis offers insights into why and how this might be done.

Using a model text as part of a multi-stage task proved useful in helping learners to expand their lexical repertoires, integrate new ideational content into their texts and improve the cohesive structure of their written texts. Yet at the same time, models did not readily enhance learners' attention to morphology and syntax as much as other feedback techniques have been shown to do (Coyle & Roca de Larios, 2014). This was largely due to the complex problem-solving nature of the writing and feedback processing tasks for these younger learners, as well as their relatively low levels of L2 proficiency. While writing their narratives, most of the children experienced difficulties in encoding their ideas lexically and grammatically and struggled to access their stored semantic and syntactic L2 representations. This was clear from their collaborative dialogues in which their lack of experience in writing and in analyzing feedback manifested itself in the

ineffective trajectories they followed. During analysis of the model, the children's noticing was largely superficial. Models tended to be used as mirror images of learners' own output so that analysis was limited to one-to-one matching and sentence-by-sentence searches for tailor-made solutions to problems or differences they had identified. Discussion of possible reasons for those differences was practically inexistent.

It was only after the instructional treatment and a second opportunity to engage in the multi-stage task that signs of second language development began to emerge in those children who had participated in the teaching intervention. During the instructional period, the children had multiple opportunities to practice writing short narrative texts, read model versions of those texts and compare them with the written output of other members of the class. This activity was performed collectively under the guidance of the teacher who elicited suggestions from the children, directed their noticing towards key elements of the models, and then filled in the 'holes' in their metalinguistic knowledge by articulating the reasons underlying the errors or differences they had identified.

The implications of this are clear. Without additional support and scaffolding from the teacher on how to process model texts, the impact of the feedback on children's second language development is likely to be limited. Children need to learn how to process models, both procedurally and linguistically. They need to be shown what to look for, how to do it, and then equipped with the metalinguistic knowledge to explain what they find. More than the model text itself, it is our contention that this valuable and on-going process of raising the children's awareness of morphosyntactic aspects of the second language and the cohesive structure of the texts, as well as features of lexis and spelling, within the context of problem-solving tasks is what prompted the instructional group children to then notice these features in the model. This seemed to have provided them with a different mindset during the second task performance. Instruction, therefore, which aims to prepare young learners for writing and feedback processing should be a primary concern for EFL teachers.

A second implication concerns the nature of the feedback itself. Models are not a personalized form of feedback, which focus on individual errors in children's writing. In this respect, it is possible that for low-level learners the uniformity of model texts as a 'one size fits all' technique may not always be the most appropriate solution for

grammatical errors. It would seem sensible, therefore, for teachers to alternate models with other forms of direct and indirect written feedback, including error correction, reformulation or metalinguistic comments, which might better facilitate the noticing of solutions to grammatical problems by making them more perceptually salient. Using a model is one form of WCF but it is not the only form. Becoming aware of the advantages afforded by different feedback techniques and knowing how to select suitable techniques for different language learning purposes should be a central part of the teaching agenda of EFL teachers and trainees.

Practical concerns when using models with young EFL learners

Tailoring models to proficiency levels

Taking a closer look at the practicalities of using of models as a feedback technique, a number of issues can be raised. Traditionally, models were given to second language learners prior to engaging in writing as an example of the sort of texts that they were expected to produce. However, when shown a model before writing, students often copied it rather than attempting to create their own text, which meant that they were less likely to try out their hypotheses about the L2 or to activate self-generated noticing on the basis of the gaps in their L2 knowledge. Despite this, model texts continue to be used in this way in many learning contexts and are included in some textbooks as standardized samples of writing. This is not necessarily a bad thing if what we want is to familiarize the learners with different genres and text structures. However, it should not be the only way in which models are used.

Providing children with a model text after the writing process enables teachers to tailor feedback to match learners' current levels of development. We had originally adopted the measure of including two models, following Hanaoka (2007), to prevent the children from simply copying from a single text. However, since the learners proved unable to cope with the attentional and linguistic demands of comparing their own output with two very similar models and tended to focus on only one, after the first writing cycle, the use of two models was discarded. The decision to use only one model from then on proved more successful, yet the idea of preparing two or three models, not for the whole class, but to cater for the different proficiency levels within mixed ability classes would seem a worthwhile option to explore. In practice this would mean elaborating various models at

different levels of difficulty and thus differentiating between higher and lower proficiency children. This would ensure that the models written by the teacher would more evenly match the variety of levels and diversity that characterize classrooms in primary education and encourage children's second language development within their possibilities.

Promoting collaborative writing and feedback analysis

An additional measure that can fruitfully assist learners at different proficiency levels with the complex task of writing and analyzing feedback is the introduction of collaborative writing in young learner classrooms. Although an in-depth analysis of the pair dynamics shown by the children throughout the study was beyond the scope of this research, the approach adopted by different pairs to the joint discussion of the multi-stage tasks showed that even these inexperienced language learners were capable of working together to encode meaning in the L2 and to process the model texts with varying degrees of success. After instruction, some of the pairs did engage in elementary 'languaging' of a sort when discussing specific features of the L2 that were within their range of experience. These joint reflections on the L2 provided fundamental evidence of their emerging ability for metalinguistic reasoning. It is also true that some thought should be given to assigning learners to work together in pairs. Placing two children together does not necessarily guarantee that they will collaborate effectively. The children in this study worked well together, although lower proficiency learners had greater difficulties in providing support for each other given their own limited knowledge of the L2. In this respect, the idea of Paired Writing (Yarrow & Topping, 2001) in which more experienced and knowledgeable learners actively scaffold and assist less proficient learners in producing a collaborative text using a structured training programme might be profitably extended to EFL classes and activities involving WCF.

Increasing motivation to write

In relation to the timing of writing and feedback activities, we have seen that children's interest can begin to fade when they perceive writing tasks as overly complex (Simard et al, 2015) or when they fail to appreciate their language-learning value. In this respect, a number of practical considerations can be made. Firstly, writing and related feedback might profit from being integrated with reading activities so that children develop skills in comprehension, word recognition, spelling, morphology and text structure by reading and then subsequently writing related texts including stories and factual information in

connection, when possible, to other curriculum subjects they are studying in English (Rose, 2016). In this way models could be used selectively in the classroom to provide feedback on specific text-types including picture descriptions, reports, instructions, explanations, etc. This might be equally useful in CLIL classrooms where learners are often required to produce written accounts of experiments or other scientific phenomenon. However, the potentially larger gap between a model text and learners' personalized writing means they would probably not be as effective with more open-ended tasks such as journal writing, personal narratives or creative writing (Hanaoka & Izumi, 2012). Other techniques might be more useful here.

More explicit help could also be given during writing and feedback processing tasks by allowing children access to bilingual or preferably monolingual dictionaries. This might ease the difficulties encountered by children whose deficit of lexical knowledge forces them to resort to the L1 when they are unable to find the L2 words they need to express their intended meanings. Bilingual dictionaries might be a useful tool especially for younger learners as they enable children to bridge gaps in their L2 knowledge by using their L1 knowledge as a referent. As children advance in their L2 knowledge, monolingual dictionaries would be desirable to avoid creating an over-dependence on L1-L2 word association, which might hinder their lexical development (Jiang, 2000).

Finally, in recent years, the use of computer-mediated communication (CMC) has impacted strongly on second language classrooms. Written CMC especially entails a number of important advantages that can increase learners' motivation to write. For instance, via technology, children can begin to communicate with speakers of other languages and to participate in interactional exchanges even in foreign language learning contexts. Studies of collaborative group work using wikis (Pifarré & Li, 2012) or intercultural project work using web-based technologies (e mail, weblogs, etc.), (Cheng, 2014) have highlighted the motivational benefits of written CMC. From a language-learning perspective, learners have more time to process input (while reading) and edit output (while typing), and the visibility of the L2 on the screen means that greater attention can be paid to language form (Ortega, 2009c), as well as to feedback from partners when communication is synchronous.

It is hoped that the implications outlined above might contribute to useful and enjoyable EFL lessons in which writing and WCF play a more central role.

V.4. Limitations of the present study

All research, however well planned and carried out, has its limitations and the study presented here is no exception. We are aware that the sample of participants in the study is small and that a greater number of pairs of different proficiency levels would ensure more representative results. But this was primarily a classroom-based study in a real school, and, as such, limited as to the number of pupils who could participate. Even so, despite having only eight pairs, the results of the study are perhaps more pedagogically relevant to teachers of younger learners than other more controlled laboratory-type studies of larger populations of older learners. However, conducting research in a school setting also meant that reality sometimes got in the way. It was impossible to record the children's dialogues simultaneously in class because of noise levels, so pairs had to perform the different stages of the task separately with the teacher while the rest of the class were engaged in other work. Under normal circumstances this could be avoided, as children would not have to be recorded during task performance. Furthermore, the fact that the older children in the TG had left the school at the time of the second set of data collection at the beginning of the school year seemed to have impacted negatively on their interest in performing the task with the same degree of enthusiasm as during the first round of data collection. This could have been confirmed had the study included interview data to uncover learners' affective disposition towards the tasks, as well as their beliefs and writing goals at different moments in time. Yet, it was also useful since it meant that any developments in the children's written output between the two writing cycles could not be easily attributed to the effects of on-going instruction since this period coincided with the summer holidays. In retrospect, the study could have been carried out over the course of the same academic year, but then doubts concerning the influence of regular EFL classes on progress in writing and the development of second language knowledge would always remain.

Methodologically, the use of collaborative dialogue as a data collection technique was advantageous as it enabled us to gain insight into the focus of the learners' attention.

However, it is also true that pairs often failed to explicitly report what they had noticed in the feedback, which suggests that their on-line discussions need to be complemented by additional measures such as post-task reflection on the feedback using complementary methods of data collection such as stimulated recall (Adams, 2003) or questionnaires (Simard, Gu  nette & Bergeron, 2015). The children were also allowed to underline or to make a note of whatever they had noticed in the feedback. In practice, this was ineffective as they often underlined great chunks of the model without further discussion or simply wrote lists of random words. Future studies with young learners should involve some sort of training in the kinds of behaviours that are expected (and not expected) during task implementation by modelling performance in class before implementing the research, either with learners who have been briefed in advance or with a specifically prepared video demonstration. This might help to avoid ineffective practices and improve the quality of the data to be analysed.

Limitations in relation to the analysis of the data were related to the selection of appropriate measures to examine the children's writing. The generally low quality of their written output meant that instruments and procedures often used in research with older learners and adults including the number of error free clauses (Sachs & Polio, 2007), a subordination index for structural complexity (Norris & Ortega, 2009) and lexical diversity (Guiraud, 1954 in Van Beuningen et al., 2012) were out of the question. The clausal unit measure used (Torr  s, 2005) proved useful for describing the children's writing in terms of its acceptability and comprehensibility and gave a good idea of minor gains across texts, but it was perhaps too crude to yield more detailed information. For this reason, the descriptive specification of improvements, partial improvements and drawbacks was deemed necessary.

Although all the data was coded collaboratively and reiteratively, it was sometimes difficult to determine whether a change identified in a pair's written output actually constituted an improvement or not. This occurred especially when children deleted their original output, which meant that the outcome of some trajectories (e.g. T5a and T7a) could lead to improvements as well as drawbacks. At times, this required much deliberation between the coders, as what might initially appear as a drawback in terms of the accuracy of the written output was actually considered to be a partial improvement since it was closer to the meaning contained in the model. To overcome this hurdle, we

subjected several examples from the children's original and revised texts to a group of fellow researchers and experts in second language writing and written corrective feedback. With their consensus on examples that were difficult to judge, we felt confident in the decisions taken. However, in future, more stringent measures of inter-rater reliability could be put in place to further support the results numerically through the use of percentage agreement.

V.5. Suggestions for future research

The exploratory nature of this doctoral thesis opens a variety of avenues for future research. Firstly, regarding the trajectories themselves. It would seem appropriate now to further refine and develop the typology by looking more closely at trajectories used by different populations including adults and high school learners in both instructional and natural settings. Particularly interesting in our educational context would be the comparison of the trajectories used by school-aged children in mainstream and CLIL programmes. This might be extended to other variables such as individual and collaborative writing and different feedback types including reformulations, error correction, editing symbols, etc. Deeper insights might be gained by examining whether and how lexis, form, and discourse are affected differentially by specific trajectories, and then tracing these developmental pathways and language use sequentially across several pieces of writing and feedback tasks. This might be done from a Dynamic Systems perspective by gathering dense developmental data from individual learners across several multi-stage tasks in order to account for the competing interaction of different morphological features or lexical growth in their L2 system. Research carried out with larger populations would also enable statistical tests to be run on the data to check for possible correlations and significance in the deployment of specific trajectories in relation to different learning outcomes.

Future research could also take a more in-depth look at the quality of learners' noticing in trajectories with more and less language learning potential. This would involve examining more closely the noticing strategies used by different pairs or by individual learners to identify how they process different types of feedback and to document any changes in their strategy use over time. Along these lines, stimulated recall might

fruitfully complement other forms of data collection techniques to tap into cases of partial or unreported noticing. We still have no answers as to why is it that learners uptake data from the feedback that they have apparently not noticed. Nor do we know for sure what factors underlie learners' 'scope of noticing' when processing feedback, which leads them to focus on some features of language at the expense of others. Further attention is clearly needed to explore why learners allocate their attentional resources differently.

Given the impact of instruction on learners' use of feedback, the instructional process itself could profitably be examined to document examples of dialogic in-class 'languaging' and the growth of learners' metalinguistic knowledge over time. Similarly, learners' collaborative dialogues could be compared before, during and after instruction to trace potential developments in the quality of their 'languaging'. Advances in the accuracy and acceptability of learners' written texts could also be traced throughout the instructional sessions and over a longer period of time to identify how lexical, linguistic and discursive features gradually emerge in the direction of target language norms. Likewise, experimental research into the effects of instruction and feedback processing on the development of specific morphological features (e.g. pronouns, articles, third person -s) could be carried out with target populations using inferential statistics. The scarcity of studies on the development of narrative skills in school-aged children (story structure, plot resolution, causal connections between events, use of cohesive devices, etc.) in relation to their cognitive maturity and developing L2 knowledge would seem another worthwhile area to explore given the popularity of storytelling in young learners classrooms and the absence of research on children's story writing performance.

V.6. Conclusion

In line with empirical research which has documented the positive impact of models as a written corrective feedback technique in a variety of learning contexts (Cánovas et al, 2015, Coyle & Roca de Larios, 2014; Hanaoka, 2006a, 2006b; 2007; Hanaoka & Izumi, 2012; Martínez Esteban & Roca de Larios, 2010; Yang & Zhang, 2010), the findings of this doctoral thesis contribute in a number of ways to the body of knowledge accumulated to date on the role of model texts in promoting young EFL learners' accuracy in writing and second language development. Firstly, the present study is unique in expanding the

data base on research into models as source of WCF by shifting the focus of attention from the quantification of linguistic episodes noticed and retained by learners to consider the full range of problem types, solutions, alternatives, noticing, partial noticing and diverse outcomes that language learners might experience sequentially during a writing, feedback analysis, and revision task. Our comprehensive and integrated analysis of process and product has crystalized in the identification of multiple routes or trajectories that learners follow differentially during writing and feedback processing and whose intrinsic language learning potential impacts on the quality of their written output. Secondly, the longitudinal and qualitative nature of our research, carried out over a period of five months with a teaching and a non-teaching group, adds a new dimension to previous 'one-shot' studies, most of which have been performed within a much shorter time frame and without a comparison group against which to compare the results. It thus offers new insights into the impact of instruction on children's feedback processing, written output and developing knowledge over a longer time period. As such, the study contributes to advancing the research agenda on feedback for acquisition. Finally, our results with young foreign language learners at low proficiency levels in a classroom setting complement those of available research by proving information on the role of instruction in promoting feedback processing, a phenomenon that a number of researchers had called for but until now had not been implemented.

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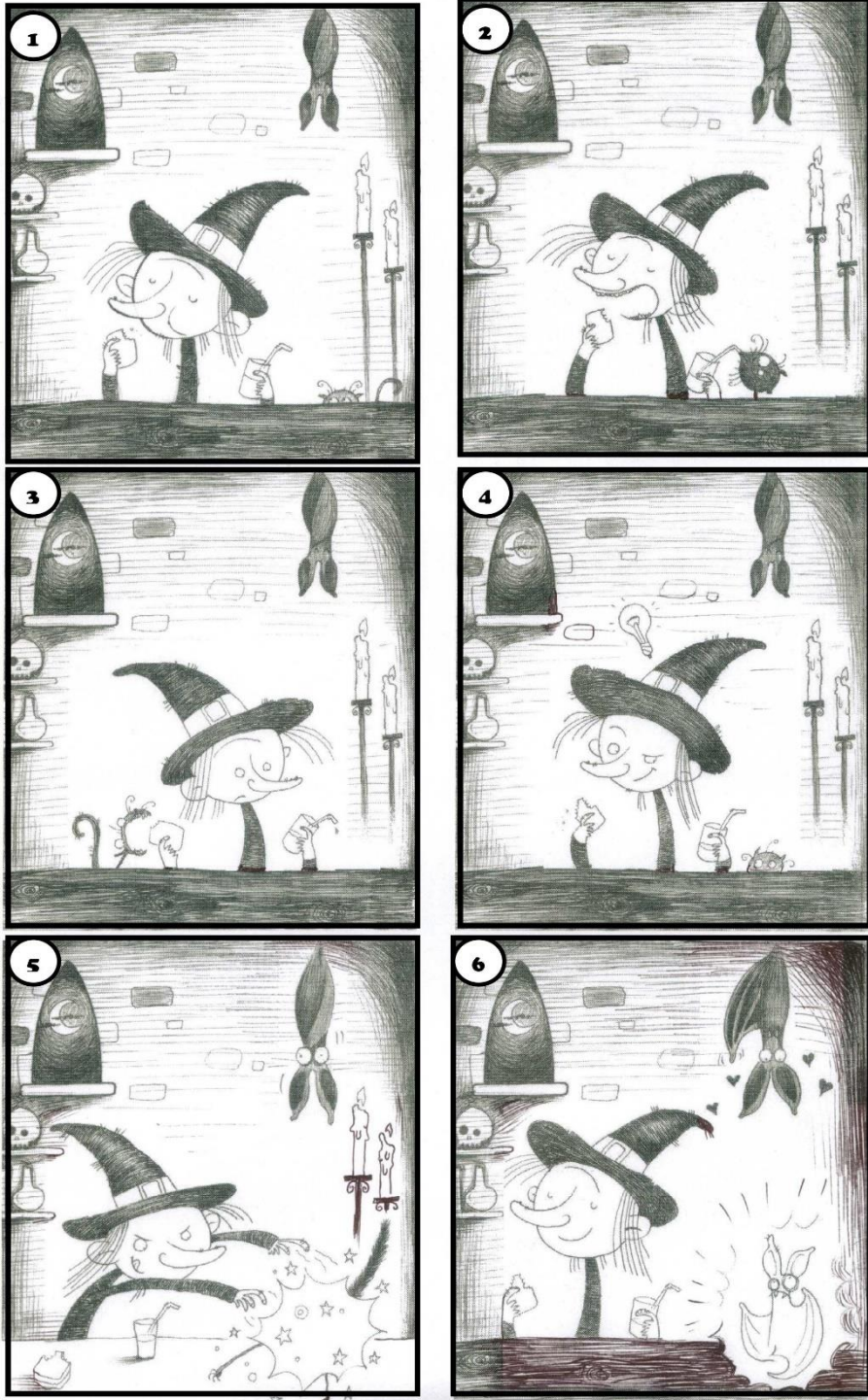
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Appendices

Appendix 1: Picture prompt, Cycle 1 “The witch”



Appendix 2: Original texts at Stage 1 (Cycle 1)

Original text at Stage 1, Cycle 1 (HL pair 1, TG)

THE WITCH

The witch live in the castle, have dinner sandwich and juice. The cat drinking the juice ^{of} the witch. The bat sleeping in the techo. The witch look ~~x~~ su juice and se da cuenta de que falta juice. Mientras the witch look the juice the cat eating the sandwich. After, the witch look ~~su~~ ^{su} sandwich and have one idea, convertir the cat in bat. Entonces lo ~~convierte~~ in bat. The black bat wakes up and loves the white bat. Entonces the witch very happy.

Original text at Stage 1, Cycle 1 (HL pair 2, TG)

They are a black night in Transylvania.
The witch names is Willy. Willy's eats a ~~to~~ cookie
and she drinking orange juice. But when Willy
eats cookie a cat ~~drink~~ the juice. And the witch
look to the cat ^{drinks} juice, but before look to the
cat eats cookie. Put the juice & cookie on the
table and transform the cat in a bat with a
spell. And the bat of the roof is in love with the
"batcat".

The end.

Original text at Stage 1, Cycle 1 (LL pair 3, TG)

The ~~whitch~~ whitch and the cat

whitch

She is drinking and eating. The cat is drinking and orange juice the whitch. The bat is sleeping.

The whitch ~~the~~ ^{finishes} ~~finishes~~ de orange juice.

The cat eating the sandwich.

The whitch solve the transformation one bat.

The bat wake up in the hat is love in the cat-bat. The whitch is happy.

Original text at Stage 1, Cycle 1 (LL pair 4, TG)

Witch and castle

Witch dinner sandwich and orange juice, and cat

Witch feeds sandwich and cat drink orange juice and ^{sleep} eat

Witch se da cuenta orange juice finishes and cat feeds
cat sandwich. Witch turn left sandwich and cat.

she tiene una idea haemagic and cat eat get up.

Witch haemagic and cat (~~eat~~) (~~eat~~) eat and eat (~~eat~~) eat.

Original text at Stage 1, Cycle 1 (HL pair 1, NTG)

The witch

The witch ~~is~~ have dinner toast and drink milk. The cat ~~is~~ look
look the milk and the bat is sleeping. The cat is ~~drinking~~
drinking the milk. The witch is eating. The witch haven't
milk. The witch is look the cat, the witch has a idea
now the cat is a cat and after the cat is a bat.
The bat is get up, the bat look other bat.
The witch has dinner happy.

Original text at Stage 1, Cycle 1 (HL pair 2, NTG)

In the witch eat sandwich and juice. The bat go to bed, in the night. The cat is mirando the juice, he bebiendo the juice. She witch eat sandwich and. The witch mira the juice. The cat its eat the sandwich. The witch is idea: the bat is the week ~~up~~. The witch it magic in the ~~to~~ cat. The bat i love cat bat.

Original text at Stage 1, Cycle 1 (LL pair 3, NTG)

Anna I have lunch, have toast and juice. Bat
sleeping, cat ~~more~~ juice and toast. Anna have toast
and cat ~~to~~ drink juice. Anna ~~is~~ it juice and
cat it ~~to~~ toast. Anna it ideam. ~~Anna~~ Which like
~~more~~ and cat in the Bat, the Bat in ~~the~~ the despicator.
Bat I love the Bat.

Original text at Stage 1, Cycle 1 (LL pair 4, NTG)

She is with Papa. In the evening a drink water. Is a bat sleeping
a cat, Mirar a sawich a water. A cat drink water and evening sawich.
A with Mirar a water and cat, evening a sawich.

Papa have idia and se asusta a cat.

With conierte a cat is a bat is a to go. Papa go to bed, dream and
Bat se I love a stro. Bat.

FIMHIS

Appendix 3: Model texts (Cycle 1)

Model 1 (Used)

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

Model 2 (Discarded)

Firstly, a witch is having dinner in her castle with her bat and her cat. She prepares a sandwich and a glass of orange juice. Then, her cat sees the food. Secondly, while the witch is eating her sandwich, the cat drinks her orange juice. After that, the witch sees that some of her orange juice is missing. And when she is looking at her glass, the cat eats her sandwich, too. Afterwards, the witch sees the cat and has an idea. The witch casts a spell. There is a bright flash of light and a loud sound! Finally, the witch turns the cat into a white bat! Now she can have her snack in peace. And the black bat wakes up and falls in love with the white bat. THE END.

Appendix 4: Comparison worksheets at Stage 2, (Cycle 1)

Comparison worksheet at Stage 2, Cycle 1 (HL pair 1, TG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice.

eating → eats

falls in love with him → loves

her → su

Comparison worksheet at Stage 2, Cycle 1 (HL pair 2, TG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

The - a. observes - look. Sandwich - cookie

Comparison worksheet at Stage 2, Cycle 1 (LL pair 3, TG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

Nosotros ~~sliping~~ → sleeping

Nosotros ~~whitch~~ → witch.

Comparison worksheet at Stage 2, Cycle 1 (LL pair 4, TG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

sleep -> sleeping
seeds -> food
turn left -> observes

Comparison worksheet at Stage 2, Cycle 1 (HL pair 1, NTG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

having → have
an → a
orange juice → milk
At night → The witch
Watching → look
her sandwich → toast

Comparison worksheet at Stage 2, Cycle 1 (HL pair 2, NTG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

drink → bebiendo

Comparison worksheet at Stage 2, Cycle 1 (LL pair 3, NTG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

Comparison worksheet at Stage 2, Cycle 1 (LL pair 4, NTG)

MODEL

At night, a witch is having dinner in her creepy castle. In the dining room, a bat is sleeping and a cat is watching the witch's food. Suddenly, the cat drinks the witch's orange juice while she is eating her sandwich. After that, she observes her orange juice and the cat eats the witch's sandwich. Then, she has an idea and uses her magic with the cat. Finally, the cat becomes a white bat and the black bat falls in love with him.

DIFFERENCES

wiht → witch
Mirar → watching
evenig → eat
Sawidhe → sandwich

Appendix 5: Revised texts at stage 3, (Cycle 1)

Revised text at stage 3, Cycle 1 (HL pair 1, TG)

THE WITCH

The witch dinner in her castle. She dinner one ~~sandwich~~^{sandwich} and juice. There is ^a one bat slipping in the ceiling. The ~~cat~~ cat of witch look the juice. The cat drinking the juice. Then, the witch look her juice and the cat eating the ~~sandwich~~^{sandwich}. After, the witch have one idea, she ~~become~~ become the cat in the white bat. The black bat wakes ~~up~~ and ~~loves~~ with the ~~white~~ white bat.

THE END

Revised text at stage 3, Cycle 1 (HL pair 2, TG)

A black night in a spoochie castle. The witch
is dinner, a sandwich and a orange juice.
The witch eat a sand wich, but the bat
looks the witch. Are a bat in the roof.
The witch eat ~~the~~ sandwich, but the cat drinks orange juice.
The witch looks orange juice, but the cat eats
the sandwich. The witch has got an idea. The witch transform
the cat in a bat, write cat with a spell. The
bat of the roof wakes up. The bat of the roof
is in love with the ~~the~~ write bat. The witch's happy.

The end

Revised text at stage 3, Cycle 1 (LL pair 3, TG)

The witch eating sandwich and orange juice.

The cat intended the drinking the orange juice.

The night and bat the sleeping.

The cat is drinking the orange juice the witch.

The witch discovered the finishes orange juice.

The cat eating the sandwich and the witch.

The witch idea the transformation in the cat.

The witch became and cat the bat.

The bat wake up. The bat is leave in the cat-bat.

The cat-bat is ~~witch~~ white.

Revised text at stage 3, Cycle 1 (LL pair 4, TG)

Witch and cat

She is dinner sandwich and orange juice and cat is observes
orange juice bat is ~~stop~~ sleeping. He is drink orange juice
Witch is sandwich. She observes orange juice and cat good
sandwich. Witch is observes sandwich and She tiene idea.
She magic and cat and bat get up. She finishes magic and She
finishes sandwich and orange juice and bat love bat

Revised text at stage 3, Cycle 1 (HL pair 1, NTG)

THE WITCH

In the night the witch has dinner sandwich
and glass of milk. The black bat is sleeping
and cat ~~is~~ look the milk. The black cat ^{is} drinking
the milk. The witch is eating a sandwich.
The witch hasn't milk. The witch ~~is~~ look the
cat. The cat is eating a sandwich. The witch
has an idea. The witch magic in the cat.
Now the cat is a white bat. The bat is wake up
The black bat ~~look~~ the white bat and witch dinner
happy. The black bat love the white bat.

THE END

Revised text at stage 3, Cycle 1 (HL pair 2, NTG)

WITCH AND CAT
At night, the witch have dinner sandwich and juice. The cat look
juice, the bat is sleeping. The cat drink juice
and witch it sandwich, the witch look juice and
eat eat sandwich. The witch idea: magic in the cat.
And bat get up. The witch happy and bat love and
in cat. The end. Rubén y Sergio

L

Revised text at stage 3, Cycle 1 (LL pair 3, NTG)

She have dinner cat and bat. Bat ^{the} in sleeping
(got to be) Witch have dinner orange juice and
(sanguich) sanguich (got) cat look orange juice.
Cat ~~for~~ drink orange juice. Cat have lunch ~~sanguich~~
Witch sanguich and Witch look orange juice.
She tiene one ideam.

She hechira and cat and Bat (get for)
get up. Bat I love and Bat.

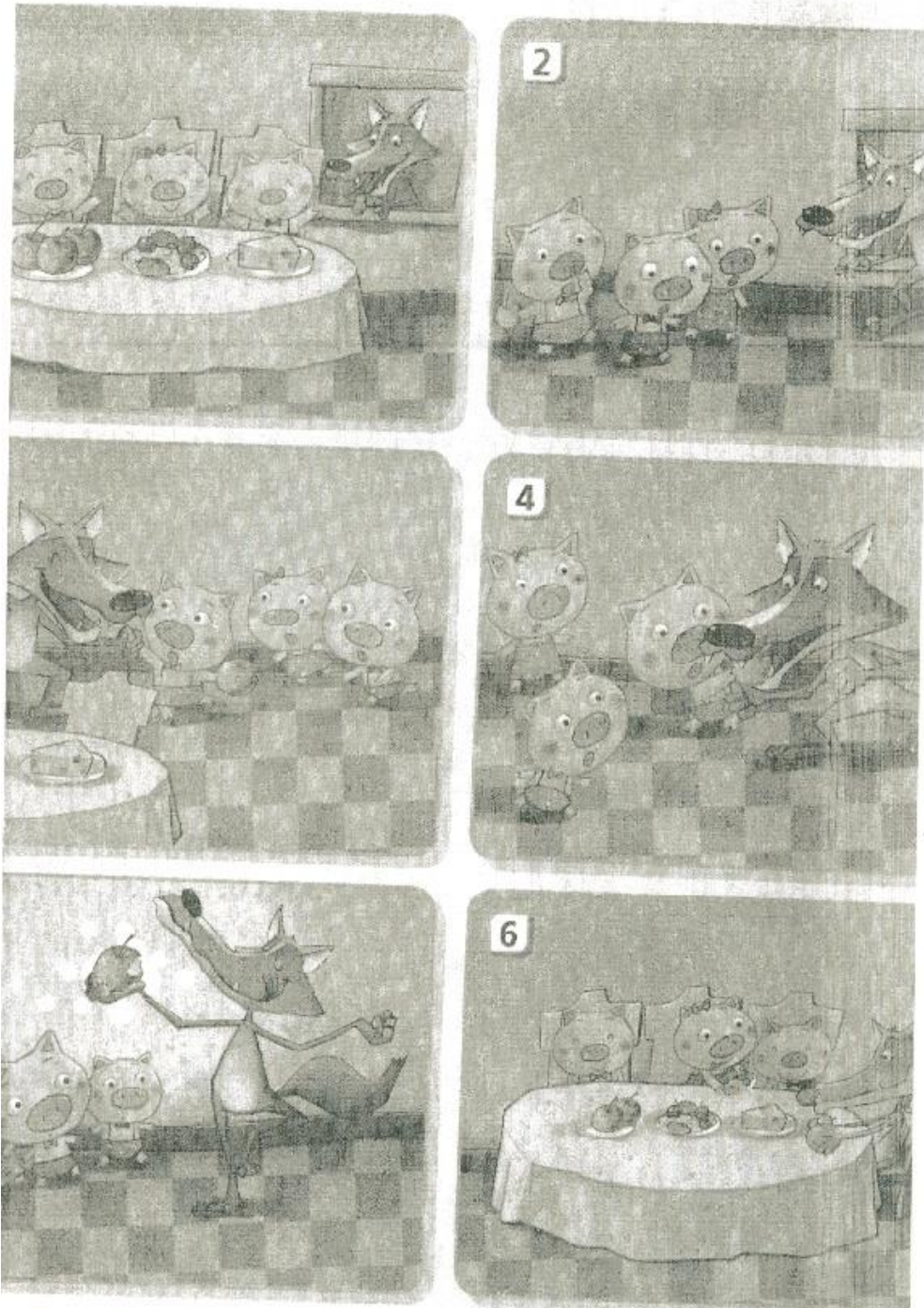
Revised text at stage 3, Cycle 1 (LL pair 4, NTG)

The whit whit is Pepa. Whit eat sandwich a orange juice and
cat look a sandwich a orange juice. Bat is sleeping.
Pepa eat and cat drink orange juice. Luego whit piensa
idea mientras eat eat sandwich.
Pepa have magic a cat and bat get up.
Whit look a TV, a cat Ramón transport is a bat and ~~also~~ I love
a Ramón. THE. END

Appendix 6: picture 1 (Teaching period)



Appendix 7: Picture 2 (Teaching period)



Appendix 8: Picture 3 (Teaching period)

1

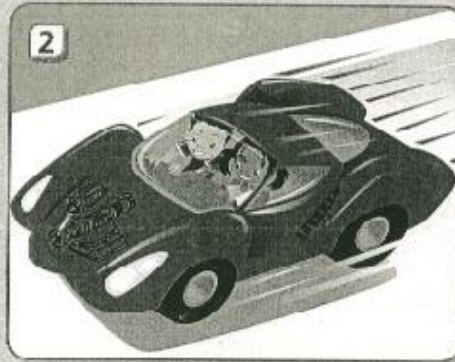
Lesson 3



Listen to the story.

Act it out.

Find.



Appendix 9: Picture 4 (Teaching period)

Lesson 4

2

Listen to the story.



Act out the story.

18

26

27

Appendix 10: Picture 5 (Teaching period)

Listen to the story.

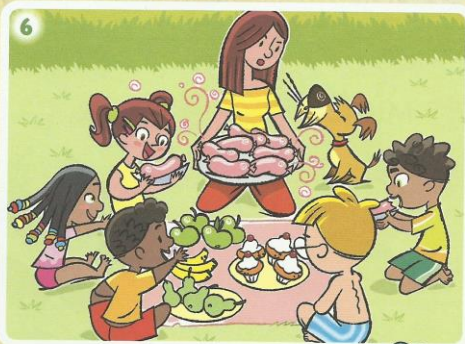
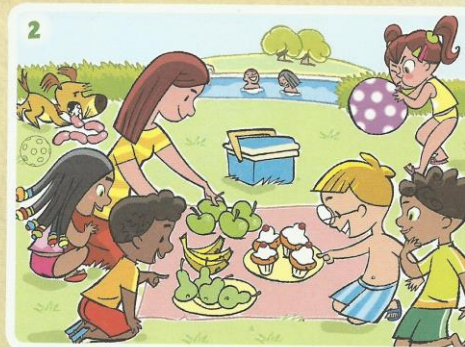
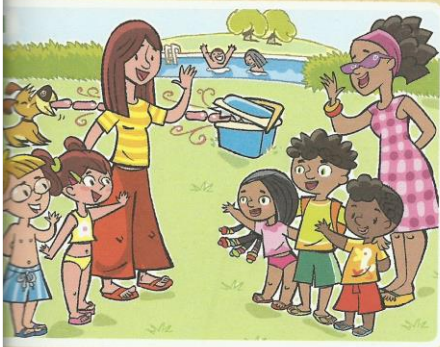


Act out the story.



Appendix 11: Picture 6 (Teaching period)

Listen to the story.



Act out the story.



Appendix 12: Model texts (Teaching period)

Model text 1:

It is Monday, the first of May and Emily leaves school at a quarter past five. Then, she goes swimming at half past five. After that, she goes to karate at half past six. When she finishes karate, at a quarter past seven, she plays handball. Next morning, she gets up at eight o'clock and she is very tired. She goes to school but at a quarter past nine, she falls asleep and her classmates laugh at her.

Model text 2:

One day, the three little pigs are going to have apples, salad and cheese for dinner. First, the wolf is looking at the pigs through the window. Suddenly, he jumps in. The three little pigs are scared because they think that the wolf wants to eat them. But the wolf doesn't want to eat the pigs, he wants to eat apples. So he eats an apple and the three little pigs see that the wolf loves eating food. Finally, the three little pigs have dinner with the wolf.

Model text 3:

A Sunday evening, two children are bored in their house. Suddenly, a wizard appears and turns the two kids into very small kids. Now, they can play with their giant toys. First, they drive Barbie's red car. They drive very fast and bump with a teddy bear and they jump on it. After that, they run because an enormous ball is rolling towards them. But they hold on a kite and escape flying. Finally, the wizard turns them back into their real size. Now everybody is very happy. It was a great adventure!

Model text 4:

In the afternoon, three children are happily playing in the park. The girl is riding a bike, one of the boys is riding a scooter and the other boy is playing football. But when it is time to go home, there is a problem: one boy hasn't got a vehicle. Then, this boy has an idea and draws a car with his magic pencil and the drawing turns into a real toy car. After that, they get in their vehicles but they see that the dog is sad. The boy draws a bone-shaped car and now the dog is happy. At the end, everybody can go home quickly.

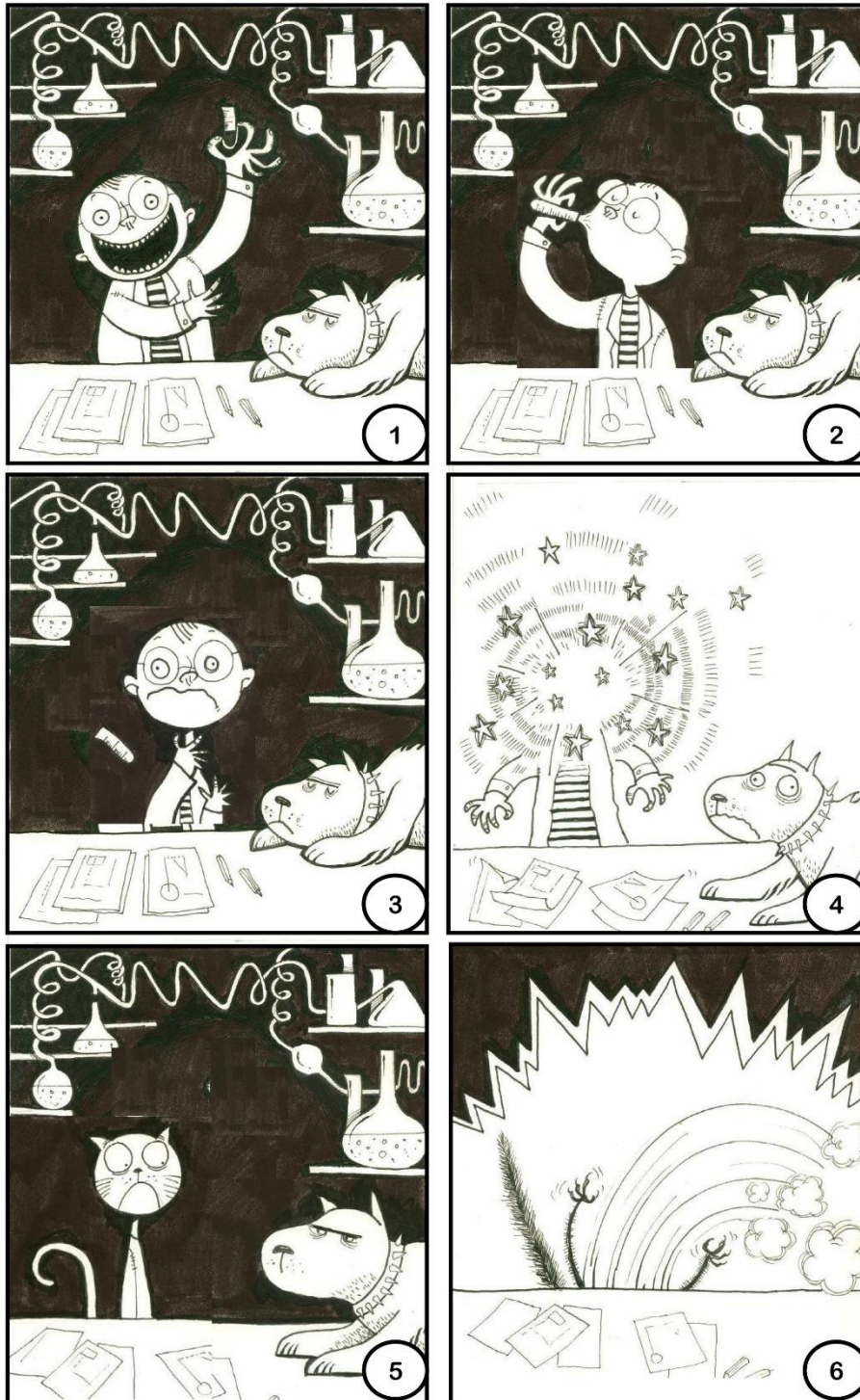
Model text 5:

At the weekend, three children with their dog go to visit their grandmother and her cat. Immediately, the dog wants to catch the cat. The cat is afraid of the dog and climb up a tree. Then, the boys want to save the cat because their grandmother is very worried. First, one of the boys draws a ladder and, instantly, a magic ladder appeared in the garden. The boy saves the cat and granny is so happy that gives everybody some apples.

Model text 6:

One summer day two families go to the swimming pool. While they are distracted saying hello, a dog eats their sausages. Next, they sit down and happily prepare their lunch: some cakes, bananas, apples and pears. But when mum gets the plate with the sausages, they see that there are only three sausages on the plate! Then, one girl draws some sausages with a magic pencil and, at that moment, real sausages appear on the plate. Now, the two families can finally enjoy their lunch in peace.

Appendix 13: Picture prompt, Cycle 2 “The scientist”



Appendix 14: Model text (Cycle 2)

One day, a scientist is in his laboratory conducting experiments. It's late and his dog is sleeping on the table next to him. After hours of work, he finishes his new potion. He is very excited and decides to test it immediately. He drinks the whole potion. Suddenly, he feels very strange. There is a loud noise and a bright flash of light. Then, the scientist turns into a cat! Finally, the scientist's dog wakes up angrily and attacks the cat.

Appendix 15: Original texts at Stage 1 (Cycle 2)

Original text at Stage 1, Cycle 2 (HL pair 1, TG)

THE CRAZY SCIENTIFIC

Once upon a time a ~~one~~ scientific does
a potion. They are a dog sleeping. The scientific
drink a potion, the scientific it's crazy. the head scientific
Bom Bom! The dog gets up. The scientific turn into ^a cat!
The dog look angry a cat. The dog jump the cat.

TR

Padma & Mayara

Original text at Stage 1, Cycle 2 (HL pair 2, TG)

Santiago José A crazy science man.
A day in a science room, a crazy
science man do a potion, a mystery potion.
He drink it, he got a dangerous dog in his
left hand. The potion got ex trange
effect. He become a cat! The dog
go to punch he!

The end.

Original text at Stage 1, Cycle 2 (LL pair 3, TG)

① The crazy scientist invented the magic
Pocima the dog slipping

② The crazy scientist drinking the magic
Pocima

③ The crazy scientist drank the magic
Pocima

④ ~~The heat~~ The sadelli The herol BOOM!

~~And~~ And dog wake up.

The crazy scientist ^{+ transformación} ~~can~~ ~~converter~~ the cat
Finally the dog and cat ~~BOOM~~
and the dog look and cat ~~fish~~ on
face hungry. Finally the can and dog

BOOM!

~~FIAT~~

FIAT

Original text at Stage 1, Cycle 2 (LL pair 4, TG)

The científico

One day the científico go poción. He drinks poción the dog
is sleeping.

The científico sad. científico transform in cat. The dog a get up.
look cat.

The dog is jumping and cat.

The END

Original text at Stage 1, Cycle 2 (HL pair 1, NTG)

The dog and the ugly person

The ugly person has a potion and this person ~~drinks~~ ^{drink} this
potion and the dog is sleeping. The person is ~~hahogando~~ ^{hahogando}.

The person hasn't head and the dog
~~get up~~ ^{Wake up} and the person transform a cat
and dog look the cat. The dog dead a cat.

F

FIN

END

Original text at Stage 1, Cycle 2 (HL pair 2, NTG)

The cientiffic and dog

The cientiffic is create pocy and dog is sleeping. The cientiffic is drink pocy and dog sleeping. He dolor the gargant. An cientiffic explosion is hear and dog is week up. He cientiffic is convertic a cat and dog the look is roon. An dog is attacks at cientiffic.

Fin

The end

Original text at Stage 1, Cycle 2 (LL pair 3, NTG)

Is científico

Lucas is científico excelente hace ~~una~~ ^{and} poción, and dog
sleeping. Lucas ~~in~~ the poción drinks in the
poción. Is científico no sent perfect. Lucas in expla-
sion hair, and dog get up. He transform in ~~de~~ ^{the} cat, and
dog ~~be~~ look and cat. Dog jump and cat.

END

Original text at Stage 1, Cycle 2 (LL pair 4, NTG)

& Cientif and dog

Cientif invent potion and dog sleeping. Cientif Jose ^{ding} giving
potion and luck a stars. Dog get up. Jose se combierte en cat and
Dog _{no} Luck good a cat. Dog jump a cat Jose

THE/END

Appendix 16: Comparison worksheets at Stage 2, (Cycle 2)

Comparison worksheet at Stage 2, Cycle 2 (HL pair 1, TG)

MODEL

One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

Scientist → scientific

Drinks → drink

Comparison worksheet at Stage 2, Cycle 2 (HL pair 2, TG)

MODEL

One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

Wole potion, + mystery potion.
attacks the cat + The dog go
to punch he.

Comparison worksheet at Stage 2, Cycle 2 (LL pair 3, TG)

MODEL

One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

sleeping - slipping
drinks - drinking
Fynally - Finally

Comparison worksheet at Stage 2, Cycle 2 (LL pair 4, TG)

MODEL

One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

cientific → scientist

ess sleeping → sleeping

pocion → potion

transform → turns into

aget up → wakes up

jumping → attacks

Comparison worksheet at Stage 2, Cycle 2 (HL pair 1, NTG)

MODEL

One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

sleeping → sleeping

drink → drinks

Wake up → Wakes up

Comparison worksheet at Stage 2, Cycle 2 (HL pair 2, NTG)

MODEL

One day, a scientist is in his laboratory conducting experiments. It's late and his dog is sleeping on the table next to him. After hours of work, he finishes his new potion. He is very excited and decides to test it immediately. He drinks the whole potion. Suddenly, he feels very strange. There is a loud noise and a bright flash of light. Then, the scientist turns into a cat! Finally, the scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

cientiffic → scientist
pocay → potion
drink → drinks
^{week}
~~wake up~~ → wakes up

Comparison worksheet at Stage 2, Cycle 2 (LL pair 3, NTG)

MODEL

One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

cientific → scientist
sleepheng → sleeping
potion → poción
drink → drinks

Comparison worksheet at Stage 2, Cycle 2 (LL pair 4, NTG)

MODEL

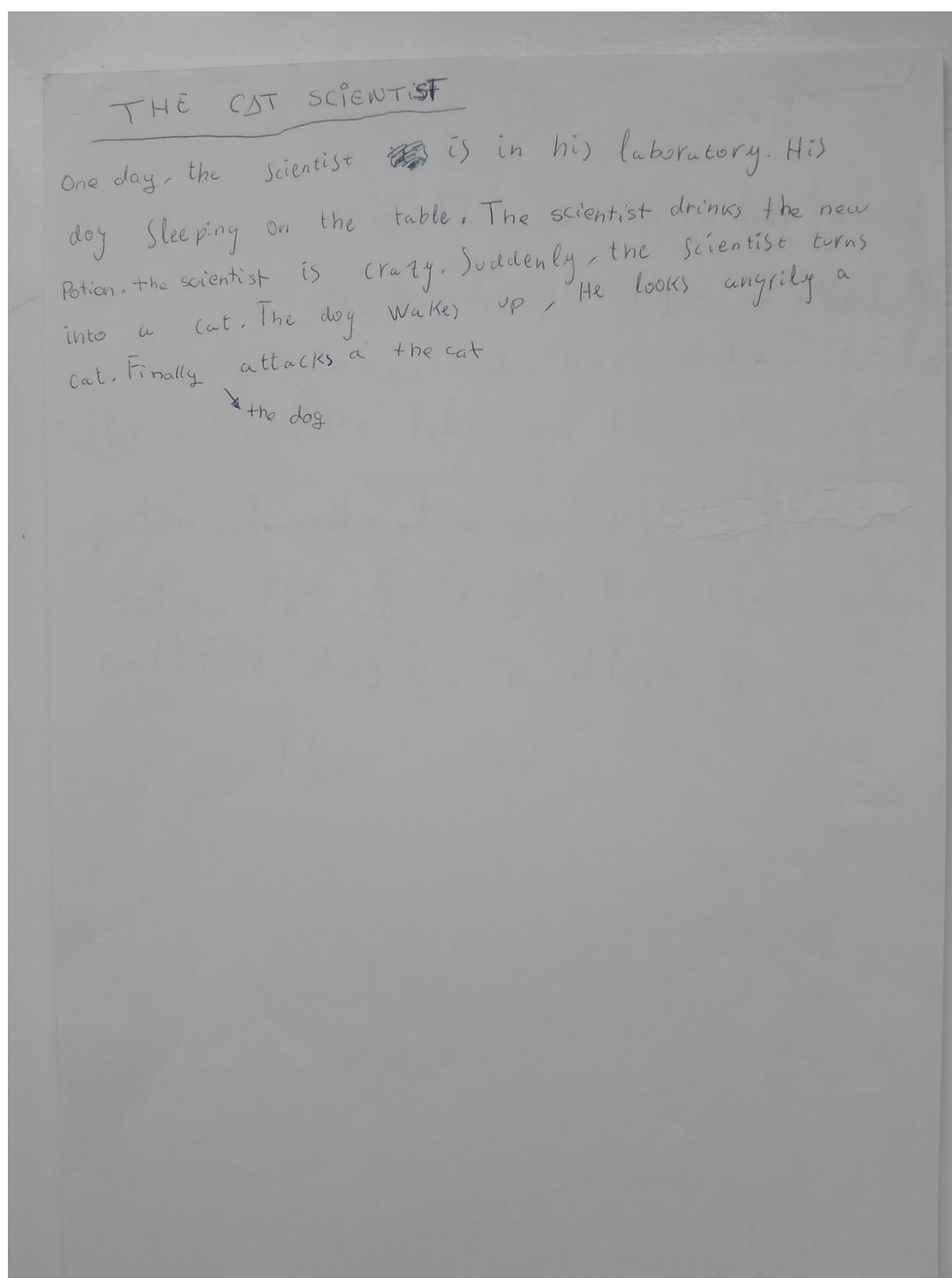
One day, a scientist is in his laboratory conducting experiments.
It's late and his dog is sleeping on the table next to him. After
hours of work, he finishes his new potion. He is very excited and
decides to test it immediately. He drinks the whole potion.
Suddenly, he feels very strange. There is a loud noise and a bright
flash of light. Then, the scientist turns into a cat! Finally, the
scientist's dog wakes up angrily and attacks the cat.

DIFFERENCES

Drinks → dring
scientist → cientif

Appendix 17: Revised texts at stage 3, (Cycle 2)

Revised text at stage 3, Cycle 2 (HL pair 1, TG)



Revised text at stage 3, Cycle 2 (HL pair 2, TG)

the scientist.

A day a scientist. He is in his labo^o
He got a dog he he's sleeping in the table.
He is very excited because he's finished
The potion. He like test the potion now. The
potion haven't got a good effect. His head
got a lot of light. He turns into a
cat! The dog go to attack him!

The end.

Revised text at stage 3, Cycle 2 (LL pair 3, TG)

The Scientist
One day, the scientist invented the pocime
magic and dog sleeping on the table
next to the He. The scientist drinking the
pocime magic. The scientist see the pocime
magic. The scientist hear a boom! and dog
wake up. The scientist transformacion in cat
and dog look at the cat. Finally the
dog attacks on the cat. ~~THE~~
~~THE~~
THE
END

Revised text at stage 3, Cycle 2 (LL pair 4, TG)

The scientist

One day, the scientist goes to the laboratory and finishes his potion. The dog is sleeping in the tablet. The scientist's reaction makes

Suddenly the scientist splashing the dog wakes up the scientist transform and cat the dog look the cat. Finally the dog attacks the cat.

The End

Revised text at stage 3, Cycle 2 (HL pair 1, NTG)

The scientist

The scientist, he has a potion and the dog is sleeping. The scientist drinking the potion and he is bad. He hasn't head and the dog wakes up and the dog look the cat. The dog attack a cat. The cat is DEAD.

THE END

Revised text at stage 3, Cycle 2 (HL pair 2, NTG)

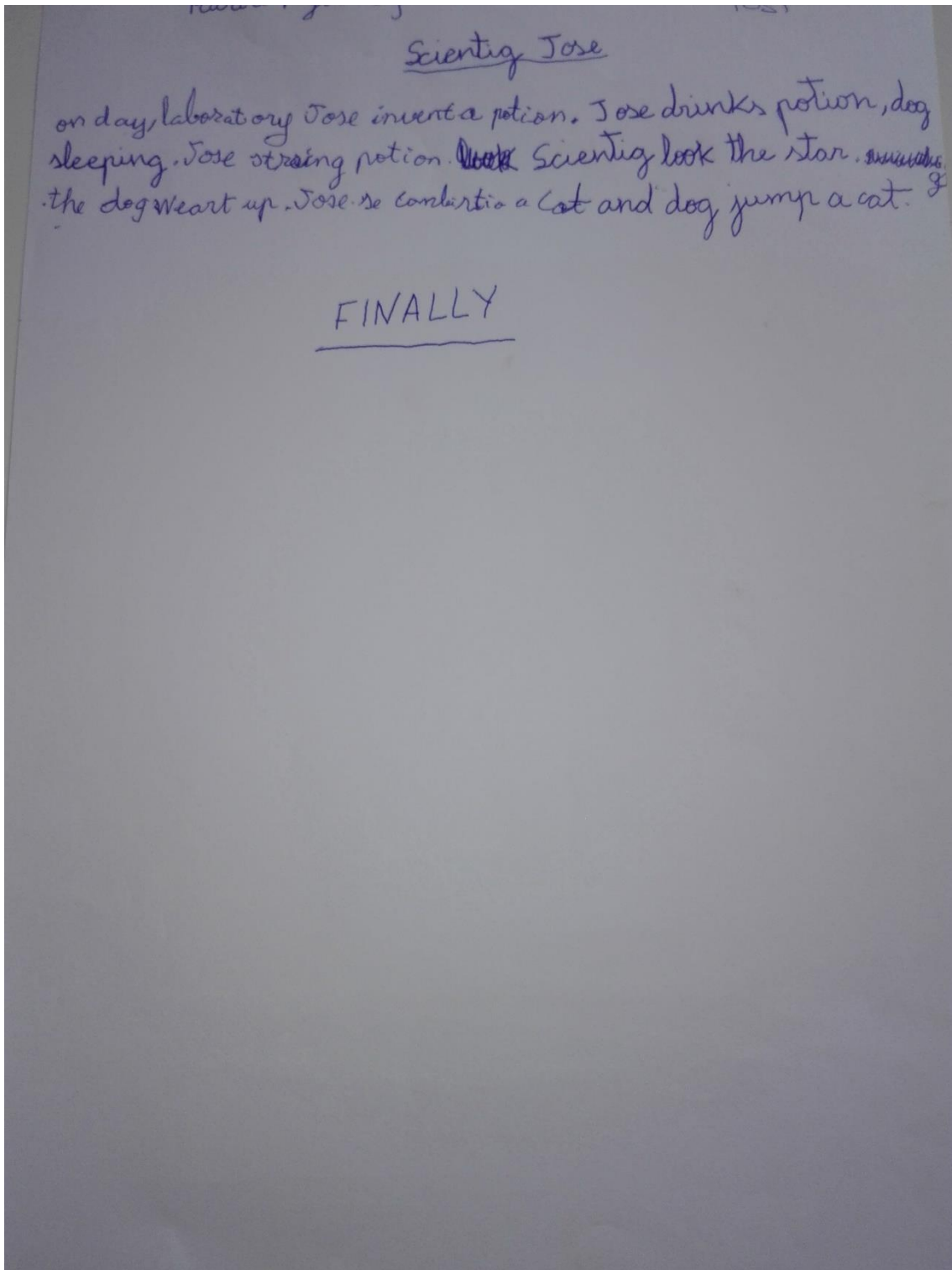
One day, the scientific is convertic potion ^{in his laboratory} and dog is sleeping. ~~Potion is drink a scientific~~
The scientific is drink potion and dog sleeping. The scientific is down grant. He scientific explosion near and dog is week up. He scientific is convertic cat and dog look a cat. And dog is attack a cat. The end

Revised text at stage 3, Cycle 2 (LL pair 3, NTG)

Lucas and dog

One day, Lucas is scientific excellent, an realistic potion,
and dog and the sleeping. Scientific drinks in the
potion. He ^{is} Inspiration effect. And he explosion the hair, and
dog get up. Scientific transform in de cat and
dog look dog at the ~~cat~~ cat.

Revised text at stage 3, Cycle 2 (LL pair 4, NTG)



Appendix 18: Example of combined process-product analysis

Pair 1, Teaching Group, Cycle 2

PRODUCT 1: Written product from Stage 1 to Stage 3 (frame 1) PROTO-CLAUSE 1 (<i>Once upon a time a one scientific does a potion</i>) CLAUSE 1 (<i>One day, the scientist is in his laboratory</i>)		
Improvements 1. Once upon a time → one day (Lexis, MM) 2. A one → the (Lexis, MM) 3. Scientific → scientist (Form, MM) 4. Is in his laboratory → Incorporation (Discourse, MM)	Partial improvements _____	Drawbacks _____
PROCESSES	PATTERNS OR TRAJECTORIES	
<p style="text-align: center;">Stage 1</p> <p>L-LRE (Érase una vez...) [One upon a time] -P1: A ver, érase una vez... [Let's see, once upon a time] -P2: Once upon a time... (they write it) Translation solved "Once upon a time"</p> <p style="text-align: center;">Stage 2 Noticed <i>One day, →</i> metalinguistic reasoning and translation (PCI) P1: Hemos comenzado diferente: ellos han puesto "One day", un día, (underlined) y nosotros "Once upon a time", érase una vez. [We started in a different way, they wrote 'one day' and we wrote 'once upon a time']</p> <p style="text-align: center;">Stage 3 Direct production "One day."</p> <p style="text-align: center;">Stage 1 Problem 1: F-LRE (Científico) [Scientist] -P1: El científico... [The scientist] -P2: Científico creo que es científico pero con una "s" antes de la "c" [Scientist, I think is científico but with an 's' before the 'c'] They write: "The científico" Spelling search Unsolved "Scientific"</p> <p style="text-align: center;">Stage 2 Noticed <i>Scientst →</i> filling the hole (Form, PCI) -P2: Scientist, lo hemos escrito mal (Escriben: scientist → científico)</p> <p style="text-align: center;">Stage 3 Direct production "Scientist"</p>	<p>T20b) A solved problem with an alternative solution in the model is noticed and incorporated. At stage 1, the first problem this pair have is at lexical level (Érase una vez), they solve it by translation ("Once upon a time"). At stage 2, children notice in the model a solution or alternative to what they wrote (<i>One day</i>). They notice it by metalinguistic reasoning and translation. At stage 3, they incorporate the alternative noticed (<i>One day</i>).</p> <p>12) An unsolved problem at stage 1 whose solution is noticed in the model, it is incorporated at stage 3. At stage 1, the second problem children have is a F-LRE (científico), they try to solve it using a spelling search but they write "científico". At stage 2, they find the solution to their problem in the model (Scientist), they filling that hole. At stage 3, they incorporate that form into their writing.</p>	

<p style="text-align: center;">Stage 1</p> <p style="text-align: center;">F-LRE (hace) [does]</p> <p style="text-align: center;">-P2: que hace... [that does]</p> <p>-P1: Como hacer los deberes, do my homework, entonces sería does...(They write it). Does a potion [Like do the homework, do my homework, then it would be does...]</p> <p style="text-align: center;">(morphological search)</p> <p style="text-align: center;">solved</p> <p style="text-align: center;">“does a potion”</p> <p style="text-align: center;">Stage 2</p> <p style="text-align: center;">Noticed alternative</p> <p style="text-align: center;">(metalinguistic reasoning and translation, PCI)</p> <p style="text-align: center;"><i>a scientist is in his laboratory</i></p> <p>-P1: Is his laboratory, está en su laboratorio, nosotras no hemos puesto dónde estaba. [Is in his laboratory, we did not put where he was]</p> <p style="text-align: center;">Stage 3</p> <p style="text-align: center;">Direct production</p> <p style="text-align: center;"><i>the scientist is in his laboratory</i></p>	<p>T20b) A solved problem (does a potion) with an alternative solution in the model (is in his laboratory) is noticed and incorporated at stage 3.</p>
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<p align="center">PRODUCT 2: Written product from Stage 1 to Stage 3 (frame 1) PROTO-CLAUSE 2(<i>They are a dog sleeping</i>) CLAUSE 2 (<i>His dog^ sleeping on the table</i>)</p>		
Improvements	Partial improvements	Drawbacks
1. They are → Error deletion (NMM) 2. A dog → his dog (Lexis, MM) 3. On the table → incorporation (Lexis MM)	_____	_____
PROCESSES	PATTERNS OR TRAJECTORIES	
<p align="center">Stage 1</p> D-LRE (Hay un perro durmiendo) [There is a dog that is sleeping] -P2: ¿Hay? They are (lo escriben) un perro durmiendo... [There is? They are, they write it, a dog is sleeping...] -P1: a dog sleeping (they write it). Translation Unsolved “They are a dog sleeping”	<p>8) An unsolved problem at stage 1 with partial solution in the model is noticed but partially incorporated at stage 3.</p> <p>At stage 1, they do not solve a clause problem (Hay un perro durmiendo) by translation (They are a dog sleeping).</p> <p>At stage 2, the model can address part of the sentence (his dog is sleeping) and add new content (on the table next to him). Children notice everything using spot the difference.</p> <p>At stage 3, they incorporate part of their noticing (his dog, on the table).</p>	
<p align="center">Stage 2</p> Solvable (partially) <i>His dog is sleeping on the table next to him</i> → Spot the Difference (NEC) -P2: Dog is sleeping, yes. (they wrote ‘a dog sleeping’). -P2: On the table next to him, no.		
<p align="center">Stage 3</p> Direct production “His dog sleeping on the table” unsolved		
<p align="center">PRODUCT 3: Written product from Stage 1 to Stage 3 (frame 2) PROTO-CLAUSE 3 (<i>The scientific drink a potion</i>) CLAUSE 3(<i>The scientist drinks the new potion</i>)</p>		
Improvements	Partial improvements	Drawbacks
1. Drink → drinks (Form, MM) 2. A potion → the new potion, (Lexis, PMM)	_____	_____
PROCESSES	PATTERNS OR TRAJECTORIES	
<p align="center">Stage 1</p> Unreported problem “drink”	<p>T18) At stage 1, the form “drink” is not reported as a problem, nevertheless, at stage 2, a solution is noticed by translation and metalinguistic reasoning (drinks) and it is incorporated at stage 3.</p>	
<p align="center">Stage 2</p> Noticed <i>drinks</i> → translation, metalinguistic reasoning (Form, CI)		
-P1: He drinks, él bebe, ellos han puesto drinks y nosotras hemos puesto drink, se nos ha olvidado poner la “s” de tercera persona. [He drinks, they put ‘drinks’ and we forgot to put the 3rd person -s]		
<p align="center">Stage 3</p> “drinks”		

<p style="text-align: center;">Stage 1 L-LRE (mezcla) [Mix] -P1: ¿mezcla? [Mix?] -P2: a potion (they write it)</p> <p style="text-align: center;">Translation solved “a potion”</p> <p style="text-align: center;">Stage 2 Noticed <i>The whole potion</i> → Spot the difference -P1: <i>Bueno, potion sí, lo tenemos bien.</i> [Well, potion yes, we have it correct.]</p> <p style="text-align: center;">Stage 3 Direct production “the new potion”</p>	<p>T21) A solved problem at stage 1 (potion) is noticed and confirmed by the model and the original output it repeated at stage 3.</p> <p>T2) At stage 2, children notice a new lexis (the whole) in the model by spot the difference (NEC) that leads them to a partial incorporation +. At stage 3, they write “the new potion” similar to “the whole potion”, they seem not understand the lexis in the model but they get the idea of adding an adjective to “potion”.</p>
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PRODUCT 4:
Written product from Stage 1 to Stage 3 (frame 3)
PROTO-CLAUSE 4 (*the scientific it's crazy.*)
CLAUSE 4 (*The scientist is crazy*)

Improvements It's → is (Form, MM)	Partial improvements	Drawbacks _____
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PROCESSES	PATTERNS OR TRAJECTORIES
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<p style="text-align: center;">Stage 1 L-LRE (Se vuelve) -P1: El científico se vuelve loco... [The scientist goes crazy] The scientific... crazy (They write it and leave the gap). When revising they write “it's”</p> <p style="text-align: center;">Lexical search unsolved “it's”</p> <p style="text-align: center;">Stage 2 Solvable Noticed <i>He feels very strange</i> → Spot the Difference (NEC) -P1: He feels very strange. Nada de eso He is very excited → Spot the Difference (NEC)</p> <p style="text-align: center;">Stage 3 Direct production “The scientist is crazy”</p>	<p>T12) An unsolved problem at stage 1 (it's) whose solution is noticed in the model “is”, (spot the difference), it is incorporated at stage 3.</p>
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PRODUCT 5: Written product from Stage 1 to Stage 3 (frame 4) PRE-CLAUSE 1 (<i>The head scientific bumm, bumm!</i>) NO TEXT RELATED TO THE NEW INPUT AT STAGE 3		
Improvements	Partial improvements	Drawbacks
1. The head scientific bumm, bumm!→ deletion (NMM)	_____	_____
PROCESSES		PATTERNS OR TRAJECTORIES
<p style="text-align: center;">Stage 1</p> <p style="text-align: center;">L-LRE (Explota) [Explodes] P2: The head cientific explota [The scientist’s head explodes]... The head scientific bum, bum! (They write it). P1: Big Bang! No.</p> <p style="text-align: center;">Lexical search for explodes Unsolved Bum, bum!</p> <p style="text-align: center;">Stage 2</p> <p style="text-align: center;">Partially solvable Noticed</p> <p style="text-align: center;">There is a loud noise and a bright flash of light. Clause Spot the difference (NEC) P1: <i>There is a loud noise and a bright flash of light.</i> Nada de eso. [Nothing about that]</p> <p style="text-align: center;">Stage 3</p> <p style="text-align: center;">Original output deleted</p>		<p>T7a) An unsolved problem at stage 1 “explota” with partial solution in the model (<i>There is a loud noise and a bright flash of light</i>) is noticed by spot the difference but the original output is deleted at stage 3.</p>

PRODUCT 6: Written product from Stage 1 to Stage 3 (frame 5) CLAUSE 1 (<i>The scientific turns into a cat!</i>) CLAUSE 5 (<i>Suddenly, the scientist turns into a cat.</i>)		
Improvements	Partial improvements	Drawbacks
1.Suddenly→ incorporation, connector (Lexis, MM)	_____	
PROCESSES		PATTERNS OR TRAJECTORIES
<p style="text-align: center;">Stage 1</p> <p style="text-align: center;">L-LRE, (se convierte) [turns into]</p> <p>--P1: El científico se convierte en un gato. Ehm...no me acuerdo de cómo era convertir, se transforma...[The scientist turns into a cat. Ehm... I do not remember how was turn or transform...]</p> <p>-P2:Ah! The scientific turns into a cat! (They write it).</p> <p style="text-align: center;">Lexical search cross solved “Turns into”</p> <p style="text-align: center;">Stage 2</p> <p style="text-align: center;"><i>Turns into a cat!</i> →Spot the Difference (Form, CI) Hypothesis confirmation, metalinguistic reasoning</p> <p>-P2: Turns into a cat! ¡Lo hemos puesto exactamente igual! [We put exactly the same!]</p> <p style="text-align: center;">Stage 3</p> <p style="text-align: center;">Direct production</p> <p style="text-align: center;">“Turns into”</p>		<p>T21) A solved problem at stage 1(turns to) is noticed and confirmed by the model and the original output is repeated at stage 3.</p>
<p style="text-align: center;">Stage 1</p> <p style="text-align: center;">Not related output</p> <p style="text-align: center;">Stage 2</p> <p style="text-align: center;"><i>Suddenly</i> → translation (Lexis, PCI)</p> <p>-P2: Suddenly, de repente, no. [Suddenly, suddenly, no]</p> <p style="text-align: center;">Stage 3</p> <p style="text-align: center;">Direct production “Suddenly”</p>		<p>T3) At stage 2, children notice a new lexis in the model (suddenly) by translation (CI) that leads them to the incorporation at stage 3.</p>

<p align="center">PRODUCT 7: Written product from Stage 1 to Stage 3 (frame 5) CLAUSE 2 (<i>The dog gets up.</i>) CLAUSE 6 (<i>The dog wakes up</i>)</p>		
Improvements	Partial improvements	Drawbacks
1. Gets up → wakes up (Lexis, MM)		
PROCESSES	PATTERNS OR TRAJECTORIES	
<p align="center">Stage 1</p> <p>L-LRE (Se despierta) [Wakes up] -P2: And the dog...se despierta...[And the dog wakes up] -P1: Get up! -P2: Gets up...(They write:The dog gets up) Translation) solved “gets up”</p> <p align="center">Stage 2</p> <p>Noticed <i>Wakes up</i> → filling the hole, translation (Lexis, PCI) . -P2: <i>The scientist’s dog....wakes up, se despierta. No. Nosotras hemos puesto se levanta, gets up.</i> [Wakes up, we put gets up]</p> <p align="center">Stage 3</p> <p>Direct production “Wakes up”</p>	<p>T20 A solved problem at stage 1 (gets up) is rewritten at stage 3 influenced by the alternative in the model (wakes up). At stage 1, they look for the lexis “wakes up” and end up replacing the message with a correct lexis “gets up”. At stage 2, they notice the lexis they looked for at stage 1 by translation + filling the hole and at stage 3 they incorporate it.</p>	
<p align="center">PRODUCT 8: Written product from Stage 1 to Stage 3 (frame 5) PROTO-CLAUSE 5 (<i>The dog look angry a cat</i>) CLAUSE 7 (<i>he looks angrily a cat</i>)</p>		
Improvements	Partial improvements	Drawbacks
1.The dog→he (Lexis, MM) 2.Look→ looks (Form, NMM) 3.Angry→ Angrily (Lexis, MM)	_____	_____
PROCESSES	PATTERNS OR TRAJECTORIES	
<p align="center">Stage 1</p> <p>D-LRE, (El perro lo mira enfadado) [The dog looks at him angrily] -P2: El perro lo mira enfadado...[The dog looks at him angrily...] -P1: The dog... -P2: look -P1: Angry -P2: a cat. Translation unsolved “The dog look angry a cat”</p> <p align="center">Stage 2</p> <p>Noticed <i>He, looks angrily</i> → Spot Difference (NEC) -P1: Angrily y nosotras hemos puesto angry. [Angrily and we put angry]</p> <p align="center">Stage 3</p> <p>“He looks angrily a cat”</p>	<p>T20b) A solved problem at stage 1 (the dog) is rewritten at stage 3 influenced by the alternative in the model (he). They improve their writing by using the pronoun “he” noticed in the model instead of writing “the dog” all the time.</p> <p>T6) An unsolved problem at stage 1 (look) without solution in the model is solved at stage 3 due to factors unrelated to the model such as previous searches in the dictionary, the English lessons etc.</p> <p>T12) An unsolved problem at stage 1 (angry) whose solution is noticed in the model (angrily), it is incorporated at stage 3.</p>	

PRODUCT 9:		
Written product from Stage 1 to Stage 3 (frame 6)		
PROTO-CLAUSE 6 (<i>The dog jump the cat.</i>)		
CLAUSE 8 (<i>Finally, the dog attacks the cat.</i>)		
Improvements	Partial improvements	Drawbacks
1. Finally → incorporation Lexis, MM) 2. Jump → attacks (Lexis, MM)		
PROCESSES		PATTERNS OR TRAJECTORIES
<p style="text-align: center;">Stage 1 No output related</p> <p style="text-align: center;">Stage 2 <i>Finally</i> → translation, metalinguistic reasoning (Lexis, CI) -P1: Finally, finalmente, no, hemos puesto pocos conectores. [Finally, finally, no, we have put few connectors.]</p> <p style="text-align: center;">Stage 3 “finally”</p>	<p>T3) At stage 2, children notice a new lexis in the model (finally) by translation and metalinguistic reasoning (CI) that leads them to the incorporation.</p>	
<p style="text-align: center;">Stage 1 L-LRE, (Se pelean) [They fight] -P1: Y ahora, ¿cómo es pelean? [And now, how do you say they fight?] -P2: Salta sobre él. [Jump over him] -P1: The dog jump the cat.</p> <p style="text-align: center;">Lexical search unsolved “jump the cat”</p> <p style="text-align: center;">Stage 2 Noticed <i>Attacks the cat</i> → Spot the Difference (Lexis, NEC) -P2: and attacks the cat, no.</p> <p style="text-align: center;">Stage 3 Not a problem “The dog attacks the cat”</p>	<p>T9) An unsolved problem at stage 1 (se pelean, they fight) whose partial solution is noticed in the model (attacks), it is incorporated at stage 3.</p>	

Appendix 19: Examples of the micro analytic procedure used to code the data

Trajectories, transitions between **different clausal units**, improvements (IM), partial improvements (PIM) and drawbacks (DR) across groups and proficiency levels

TEACHING GROUP			
HL LEARNERS			
CYCLE 1		CYCLE 2	
MLLPs Improvements/Partial improvements/ Drawbacks	LLLPs Improvements/Partial improvements/ Drawbacks	MLLPs Improvements/Partial improvements/ Drawbacks	LLLPs Improvements/Partial improvements/ Drawbacks
<p>Pair 1 -2T12, P6, PRE→ CLA: 2/0/0 (Then→incorporation (L-LRE. MM) Su juice → her juice (L-LRE. MM) -T3, T8a, P13, PRE→ PRO: 1/1/0 (White → incorporation (L-LRE. MM) (Convertir → become (L-LRE, PMM)</p> <p>Pair 2 -T22, P15, PRO→CLA, 0/1/0 Bat-cat→ wite bat (L-LRE, phrase. PMM.-) Total trajectories: 5 Ratio IM/PIM/DR: 3/2/0</p>	<p>Pair 1 -T17, P4, PRO→ CLA: 1/0/0 Of the witch→ mistake deletion ('juice of the witch', L-LRE. NMM) -T5a, P2, PRO→ CLA: 1/0/0 They are→ error deletion (L-LRE. NMM)</p> <p>Pair 2 -T10, P10, PRO→CLA, 1/0/0 (Before look to → error deletion (S-LRE. NMM.) Total trajectories: 3 Ratio IM/ DR/PIM/DE: 3/0/0</p>	<p>Pair 1 -2T12, T3, T20b P1, PRO→ CLA: 4/0/0 (Once upon a time→ one day (L-LRE, MM) A one → the (L-LRE, MM) Scientific→ scientist (F-LRE, MM) Is in his laboratory→Incorp.(DLRE.MM)</p> <p>-T20b, T3, P2, PRO→ CLA: 2/0/0 A dog→ his dog (L-LRE, MM) On the table→ incorporation (L-LRE, MM) -T18c, T2b, P3, PRO→ CLA: 2/0/0Drink→ drinks (F-LRE, MM) A potion→ the new potion, (L-LRE, PMM)</p>	<p>Pair 2 -T14a, T17, P5, PRO→CLA, 0/0/2, Dangous → deletion (L-LRE, word. NMM.) In his left hand →deletion (L-LRE, NMM.) Missed opportunity “next to him”.</p> <p>Total trajectories: 2 Ratio IM/PIM/DR: 0/0/2/</p>

		<p>-T12, P4, PRO → CLA: 1/0/0 It's → is (F-LRE MM) -T12, T20b, T6b, P8, PRO → CLA: 3/0/0 The dog → he (L- LRE, MM) Look → looks (F-LRE, NMM) Angry → Angrily (L-LRE, MM) -T3, T12, P9, PRO → CLA: 2/0/0 Finally → incorporation (L-LRE, MM) Jump → attacks (L-LRE, MM)</p> <p>Pair 2 -T18b, T12, P10, PRO → CLA: 2/0/0 Punch → attack (L-LRE, word. MM.) He → him (L-LRE, word. MM.)</p> <p>Total trajectories: 16 Ratio IM/DR/PIM/DE: 16/0/0</p>	
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LL LEARNERS			
CYCLE 1		CYCLE 2	
MLLPs Improvements/Drawbacks/Partial improvements/deletions	LLLPs Improvements/Partial improvements/ Drawbacks	MLLPs Improvements/Partial improvements/ Drawbacks	LLLPs Improvements/Partial improvements/ Drawbacks
<p>Pair 4 -T2a, P2, PRE→PRO, 0/1/0 “And cat is observes orange juice” better than “and cat (which was supposed to mean “hay un gato”). (D-LRE. PMM) -T12, P5, PRO→CLA, 1/0/0 “sleep” → “Is sleeping” (correct form)(F-LRE, MM)</p> <p>-T9, P6, PRE→PRO, 1/0/0 Se da cuenta→ observes from model, correct replacement (L-LRE, MM) -T9, T5a, P8, PRE→PRO, 2/0/0 Replacement of “turn left” by “observes”. (L-LRE, MM)Deletion of “and cat”, error deletion. (L-LRE, NMM) -T11b, P12, PRE→PRO, 1/0/0 Deletion of “I” in “I love”: some analysis has occurred here.(L-LRE, NMM) Total trajectories: 6 Ratio IM/PIM/DR:5/1/0</p>	<p>Pair 3 -T4b, P3, PRE→ PRO: 0/1/0 (Orange juice the witch → The orange juice the witch. Article addition (L-LRE, PMM) (Missed opportunity from the model “The witch’s orange juice”)</p> <p>Pair 4 -T10, P12, PRE→PRO, 0/0/1 (L-LRE, NMM) Content loss, Deletion of cat in bat. (L-LRE, NMM) Total trajectories: 2 Ratio IM/PIM/DR:0/1/1</p>	<p>Pair 3 -T3, T12, P1, PRE→PRO, 2/0/0, One day→ incorporation (L-LRE, phrase. MM) Cientific → scientist (F-LRE, spelling MM) -T12, T6b, P5, PRE→CLA, 2/0/0, They→ the scientist (L-LRE, MM) Bomm→a boom (L-LRE, NMM) -T12, T11a, P7, PRE→PRO, 1/1/0 (cientific→scientist) The cat → in cat. (L-LRE, PMM). Closer to “turns into a cat” -T18c, T12, P9, PRE→PRO, 2/0/0, Fynally → Finally. (F-LRE, spelling. MM.)The cat and dog bomm! → The dog attacks an the cat. (D-LRE. PMM)</p> <p>Pair 4 -T12, T21, T3, P1, PRE→PRO, 3/0/0, Spelling of scientist (F-LRE, MM) “potion” for “poción”.(L-LRE, MM) Incorp.</p>	<p>Pair 3 -T5a, T16, T10, P1, PRE→PRO, 0/0/3 Creazy→ L2 deletion (L-LRE NMM) The magic pocima → the pocime magic (D-LRE, word order, NMM) Pocima→ pocime (L-LRE, NMM) Missed opportunity “potion” -T5a, T10, P3, PRE→PRO,0/0/2 Creazy→ L2 deletion (L-LRE NMM)/The magic pocima → the pocime magic (D-LRE, word order, NMM) -T10, T5b, P5, PRE→CLA, 0/1/1 The sadelli → deletion (L-LRE, NMM) Missed opportunity “suddenly” Herd → hear (F-LRE, verb form. NMM) -3T17, P8, PRE→PRO 0/0/2 (face hungri. → Deletion. (content loss The dog→dog (L-LRE, NMM). Article deletion</p> <p>Pair 4 -T6a, P6, PRE→PRO, 0/1/0</p>

		<p>of “in the laboratory” (L-LRE, MM) -T12, P3, PRE→PRO, 1/0/0 (poción→potion) -3T12, P10, PRO→CLA, 3/0/0 Incorp. “finally” (L-LRE, MM) Replacement of “is jumping” by “attacks” (L-LRE, MM) 1Incorp of “the” (cat)(L-LRE, MM)</p> <p>Total trajectories: 15 Ratio IM/PIM/DR:14/1/0</p>	<p>“transform and cat” for “transform in cat”(L-LRE, PMM)</p> <p>Total trajectories: 12 Ratio IM/PIM/DR :0/2/8</p>
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MLLP=trajectories involving More Language Learning Potential; LLLP= trajectories involving Less Language Learning Potential; T= Trajectory; P=Product; MM=Match the model; PMM=partially match the model; NMM= Not match the model.

Appendix 20: Example of analysis of products

TEACHING GROUP (PAIR 1, CYCLE 1). Comparison of Clauses in original text and revised text

Clause in original text (Stage 1)	Clause in rewritten text (Stage 3)	CHANGES		
		Improvements	Partial improvements	Drawbacks
<i>The witch live in the castle</i> CLAUSE 1	<i>The witch ^ dinner in her castle.</i> CLAUSE 1	1. The→her (Lexis, MM)	1.Live→dinner, closer to ‘is having dinner’ in the model (Lexis, PMM)	
<i>haves dinner ^sandwich and ^juice.</i> PROTOCLAUSE 1	<i>She^ dinner one sandwich and ^juice.</i> PROTOCLAUSE 1	2. She → Incorporation (Lexis, MM)	2.Haves dinner→ dinner (Form, PMM) 3.One→ Incorporation (Lexis, NMM)	
_____	<i>The cat of witch look the juice</i> PROTOCLAUSE 2		4.The cat of witch look the juice→ Incorporation (Discourse ,PMM)	
<i>The cat ^ drinking the juice of the witch.</i> PROTOCLAUSE 2	<i>The cat ^drinking the juice</i> CLAUSE 2			1. Of the witch→ deletion (Lexis. NMM)(Avoid the idea of possession)
<i>The bat ^ sleeping in the <u>techo</u>.</i> PRECLAUSE 1	<i>There is one bat slipping in the ciling.</i> CLAUSE 3	3.There is one bat → incorporation (Discourse .NMM)	5. Techo →ciling (Lexis, NMM)	2. The spelling of ‘slipping’ (Form. NMM)
<i>The witch look su juice</i> PRECLAUSE 2	<i>Then, the witch look her juice</i> CLAUSE 4	4. Then→ incorporation (Lexis. MM) 5. Su juice → her juice. (Lexis. MM)		

<i>and se da cuenta de que falta juice</i> PRECLAUSE 3	_____	6. And se da cuenta de que falta juice → L1 deletion (Discourse , NMM)	
<i>Mientras the witch look the juice</i> PROTOCLAUSE 3	_____		3. Mientras the witch look su sandwich → deletion, avoid the idea that two actions happen at the same time (Discourse, NMM)
<i>the cat^ eating the sandwich</i> CLAUSE 2	<i>the cat ^eating the sandwich</i> CLAUSE 5		
<i>After, the witch look su sandwich</i> PRECLAUSE 4	_____		4. the witch look su sandwich → deletion (Discourse , NMM)
<i>and have one idea.</i> CLAUSE 3	<i>And have one idea.</i> CLAUSE 6		
<i>convertir the cat in^ bat.</i> PRECLAUSE 5	_____	7. Convertir the cat in bat → L1 deletion Discourse , NMM	
<i>Entonces lo convierte in^ bat</i> PRECLAUSE 6	<i>She become the cat in the white bat.</i> PROTOCLAUSE 3	8. White → incorporation (Lexis. MM)	6. Entonces lo convierte in bat → She become the cat in the white bat. (Discourse . PMM.)
<i>The black bat wakes up</i> CLAUSE 4	<i>The black bat wakes up</i> CLAUSE 7		

<i>and loves the white bat.</i> CLAUSE 5	<i>and loves with the white bat</i> CLAUSE 8	7. With →incorporation, closer to 'falls in love with' in the model (Form. PMM.)
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<i>Entonces the witch ^ very happy.</i> PRECLAUSE 7		5. Entonces the witch very happy → deletion Discourse NMM
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15 CLAUSES: 7 preclauses 3 protoclauses 5 clauses. N° words: 86 (15 in L1) Mistakes: 24 Error rate: (24/86)x10=2,7	11 CLAUSES: 0 preclauses 3 protoclause 8 clauses. N° words: 73 (0 in L1) Mistakes: 14 Error rate: (14/73)x10=1,9	20 Changes (10 Model/10 Not model)		
		8 Improvements	7 Partial improvements	5 Drawback
		5 lexis MM 3 Discourse NMM	1 Lexis PMM 2 Lexis NMM 2 Form PMM 2 Discourse PMM	1 Lexis NMM 1 Form NMM 3 Discourse NMM

TEACHING GROUP (PAIR 1, CYCLE 2). Comparison of sentences in original text and revised text

Clause in original text (stage 1)	Clause in revised text (stage 3)	CHANGES		
		Improvements	Partial Improvements	Drawbacks
<i>Once upon a time a one scientific does a potion</i> PROTOCLAUSE 1	<i>One day, the scientist is in his laboratory...</i> CLAUSE 1	1. Once upon a time → one day (Lexis, MM) 2. A one → the (Lexis, MM) 3. Scientific → scientist (Form, MM) 4. Is in his laboratory → Incorporation (Discourse. MM)		
<i>They are a dog sleeping.</i> PROTOCLAUSE 2	<i>His dog[^] sleeping on the table.</i> CLAUSE 2	5. They are → Error deletion (Discourse. NMM) 6. A dog → his dog (LEXIS, MM) 7. On the table → incorporation (LEXIS, MM)		
<i>The scientific drink a potion</i> PROTOCLAUSE 3	<i>The scientist drinks the new potion</i> CLAUSE 3	8. Drink → drinks (FORM, MM) 9. A potion → the new potion, similar to 'the whole potion' in the model (LEXIS, PMM)		
<i>the scientific it's crazy.</i> PROTOCLAUSE 4	<i>The scientist is crazy.</i> CLAUSE 4	10. It's → is (FORM MM)		

<i>The head scientific bumm, bumm!</i> PRECLAUSE 1		11. The head scientific bumm, bumm!→deletion Avoid the idea of ‘explosion’ (missed opportunity: There is a loud noise and a bright flash of light) Discourse.NMM
<i>The scientific turns into a cat!</i> CLAUSE 1	<i>Suddenly, the scientist turns into a cat.</i> CLAUSE 5	12.Suddenly→ incorporation, connector (LEXIS, MM) 13. Turns into→turns into (consolidation) Form, MM
<i>The dog gets up.</i> CLAUSE 2	<i>The dog wakes up,</i> CLAUSE 6	14.Gets up → wakes up (LEXIS, MM)
<i>The dog look angry a cat.</i> PROTOCLAUSE 5	<i>he looks angrily a cat</i> CLAUSE 7	15.The dog→he (LEXIS, MM) 16.Look→ looks (FORM, NMM) 17.→ Angrily (LEXIS, MM)
<i>The dog jump the cat.</i> PROTOCLAUSE 6	<i>Finally, the dog attacks the cat.</i> CLAUSE 8	18.Finally → incorporation (LEXIS, MM) 19.Jump→ attacks (LEXIS, MM)
9 CLAUSES: 1 preclauses 6 protoclauses 2 clauses. N° words: 53 Mistakes: 13 Error ratio: (13/53)x10= 2,4	8CLAUSES 0 preclause 0 protoclause 8 clauses. N° words: 49 Mistakes: 2 Error ratio: (2/49)x10= 0,4	19 CHANGES (16 Model / 3 Not model) 19 improvements 16 MM (11 LEXIS,4 FORM, 1 Discourse) 3 Discourse NMM
		0 Partial improvements 0 Drawbacks

Resumen

Capítulo I. Introducción

El capítulo I sitúa el contexto de aprendizaje en el que el presente estudio se enmarca a la vez que ofrece una visión global de la importancia de la investigación que se realiza. En el capítulo también se detalla el principal foco de interés de la investigación, así como la organización de la tesis en diferentes capítulos.

En muchos colegios de Educación Primaria en España, bajo la fachada de un enfoque comunicativo del aprendizaje del Inglés, gran parte del tiempo se dedica a la enseñanza de vocabulario y gramática y rara vez se requiere que los niños escriban textos en inglés. Parece ser que muchos docentes hoy en día desconocen, por un lado, la importancia que la práctica de la escritura tiene para el aprendizaje de la lengua (Manchón 2009) y por otro, el papel que las correcciones escritas o feedback escrito pueden desempeñar en el desarrollo lingüístico de sus alumnos, ayudándoles a interiorizar y consolidar los nuevos aprendizajes (William, 2012). A pesar de que la investigación con niños en edad escolar sigue siendo escasa. Algunos estudios han demostrado que los aprendices de EFL parecen beneficiarse de la escritura colaborativa en tareas con feedback escrito (Cánovas Guirao, Roca de Larios & Coyle, 2015; Coyle & Roca de Larios, 2014), al menos a corto plazo. Pero se necesita más trabajo para dilucidar si los beneficios aludidos en estos estudios sólo conducen a una mayor precisión en la escritura L2 o al desarrollo del lenguaje a largo plazo (Polio, 2012).

Los Modelos como técnica de feedback escrito

Los estudios mencionados anteriormente sobre el procesamiento del feedback escrito con niños también han arrojado luz sobre el papel diferencial que desempeñan diversas técnicas de feedback en el procesamiento y adopción de correcciones lingüísticas. Tanto Cánovas et al. (2015) y Coyle y Roca de Larios (2014) contribuyeron a la línea de investigación iniciada por Hanaoka (2006a, 2006b, 2007) sobre el uso de modelos como ejemplo de una técnica de feedback escrito alternativa y más discursiva que la corrección explícita de errores.

La justificación para hacerlo esto se basó en la noción de que proporcionar a los estudiantes con un texto completo y bien escrito generaría una reflexión y discusión más profunda que, en última instancia, conduciría a un mayor aprendizaje que proporcionar simplemente a los estudiantes sus textos con tachones. De hecho, se encontró que el uso de modelos textuales permitía a los niños estirar sus recursos de IL más allá de simplemente encontrando soluciones ya hechas a los problemas lingüísticos en sus textos, incorporando nuevo léxico y contenido y mejorando la estructura general de su escritura, lo que puede considerarse como un avance en el desarrollo de su competencia escrita.

Con respecto a los niveles de competencia lingüística de los niños, los resultados de ambos estudios no fueron claros. Sin embargo, coincidieron en sugerir el papel fundamental de la instrucción para ayudar a los estudiantes a explotar mejor las ventajas de esta técnica de feedback escrito.

Resumiendo las dimensiones descritas anteriormente: (i) el potencial del feedback escrito para promover la precisión en la escritura y contribuir al aprendizaje de la segunda lengua; (iii) los presuntos beneficios de la instrucción en el uso de textos modelo como una estrategia de feedback escrito con estudiantes de diferentes niveles de competencia lingüística, la presente tesis doctoral intenta explorar el potencial de aprendizaje de la lengua de la escritura colaborativa y el procesamiento de modelos para apoyar el desarrollo del segundo idioma de los niños. Al hacerlo, consideraremos lo que Manchón (2011b) ha denominado "feedback para adquisición", es decir, feedback diseñado para involucrar a los estudiantes en el procesamiento lingüístico que podría conducir al desarrollo del conocimiento más allá de las mejoras a corto plazo en la precisión.

Limitaciones en los estudios de feedback escrito

Estudios de feedback centrados en mejoras en la precisión

Una gran cantidad de investigación sobre el feedback escrito ha obtenido resultados alentadores con respecto a mejoras en la precisión en la producción de nuevos textos a largo plazo (Bitchener, 2008; Bitchener & Knoch, 2010a, 2010b; Sheen, 2007). Sin embargo, estos estudios también poseen sus limitaciones. En primer lugar, cuantificar los índices de error de los productos escritos finales de los estudiantes no tiene en cuenta la aparición de «nuevos» errores lingüísticos, que podrían aparecer en los textos de los alumnos después de la exposición al feedback. En segundo lugar, el uso de criterios

binarios en el cálculo de los recuentos de errores ("correctos o incorrectos") tampoco toma en consideración el progreso parcial y las mejoras menores hechas por los aprendices en el proceso de adquisición de la lengua (Van Beuningen, 2010). Por último, los estudios orientados a los productos tampoco consideran cómo los alumnos pueden responder al feedback (aceptándolo o rechazándolo) o qué procesos cognitivos tienen lugar mientras lo analizan.

Estudios centrados en el procesamiento del feedback

Recientemente, un número creciente de estudios (Adams, 2003, Hanaoka, 2006a, 2006b, 2007, Hanaoka & Izumi, 2012, Qi y Lapkin, 2001, Swain & Lapkin, 2002, Tocalli-Beller & Swain, 2005, Yang y Zang, 2010) ha intentado determinar cómo los procesos tales como la percepción o 'noticing' y la conciencia metalingüística, así como las actitudes y creencias individuales, pueden ser cruciales para determinar el impacto del feedback en los resultados del aprendizaje. No se puede negar que esta investigación nos ha dado importantes ideas sobre el procesamiento de los diferentes tipos de feedback por parte de los estudiantes, sin embargo, no carece de limitaciones. Hasta la fecha, la visión que ofrece este grupo de estudios es incompleta. Con pocas excepciones (por ejemplo, Qi y Lapkin, 2001), la mayoría de los estudios no han explicado completamente los comportamientos de procesamiento cognitivo de los estudiantes a través de las diferentes etapas de las tareas de escritura y feedback, utilizando criterios de codificación de "todo o nada", es decir, la aceptación (o no) de correcciones o cambios, replicando de esta manera los criterios restrictivos "correctos o incorrectos" de estudios basados en la precisión.

Objetivo del estudio

Con el fin de contribuir a la comprensión actual del potencial de aprendizaje lingüístico del feedback escrito, nuestro estudio pretende dar un cierto grado de exhaustividad a la esfera de la investigación orientada hacia los procesos. Siguiendo a Bitchener y Storch (2016), se hace necesario cubrir la gama de posibilidades disponibles para los aprendices en cada punto del ciclo de escritura, feedback y revisión. Al hacerlo, podríamos desarrollar nuestra comprensión de por qué y dónde exactamente algunos estudiantes no logran tener éxito en las múltiples etapas de la tarea. Por esta razón, el objetivo de esta tesis doctoral es presentar una clasificación sistemática de las diversas vías o trayectorias que los alumnos siguen a través de las tareas de escritura, feedback y reescritura para

ampliar nuestra comprensión de cómo diferentes procesos lingüísticos y cognitivos, activados secuencialmente en el marco de la tarea en varias etapas, podría contribuir de manera diferencial a las mejoras en la escritura de los niños y el desarrollo del segundo idioma.

La aplicación de esta propuesta con niños en las etapas iniciales del aprendizaje de una segunda lengua significa, por ejemplo, ampliar la gama de problemas identificados durante la etapa de escritura más allá de la dicotomía resuelta / no resuelta en la investigación prevaleciente para incluir rasgos problemáticos en la producción escrita de los niños de los cuales no necesariamente informan pero que, sin embargo, pueden ser objeto del feedback, así como aquellas instancias en las que asisten a nuevos contenidos lingüísticos que no están presentes en sus textos originales. Del mismo modo, en la etapa de comparación con el feedback, nuestra comprensión del proceso cognitivo de los niños podría ser fortalecida por la contabilidad no sólo por lo que notan del feedback, sino también por lo que aparentemente pasa inadvertido o sólo es parcialmente notado, así como las estrategias que utilizan para hacerlo. Por último, en la etapa de revisión, es crucial documentar todo el espectro de cambios lingüísticos que los niños realizan en sus textos revisados. Esto significa utilizar un conjunto más inclusivo de criterios para tener en cuenta no sólo lo que es correcto o incorrecto en la escritura de los niños, sino también para las mejoras menores, así como las pérdidas potenciales. Este enfoque toma en consideración las recomendaciones recientes sobre la forma en que el desarrollo del segundo idioma puede ser operacionalizado para cubrir no sólo el uso exacto de las formas lingüísticas, sino también cambios graduales en la complejidad de los resultados lingüísticos y en el aumento del conocimiento metalingüístico (Sachs & Polio, 2007). , Van Beuningen, 2010). En última instancia, implica redefinir el concepto de desarrollo del lenguaje para incluir la idea de "aprendizaje en curso" (Leeser, 2004).

Suponiendo que el reto de investigar el potencial de aprendizaje de la lengua del feedback escrito con estudiantes de EFL implicará establecer conexiones entre la resolución de problemas (o la falta de ellos) en la que los niños participan cuando producen un texto escrito de manera colaborativa, su posterior procesamiento del feedback en la forma de un texto modelo y los posibles resultados de ambas actividades anteriores sobre la calidad de su producción escrita. Hacerlo durante un período de tiempo más largo y con ayuda de instrucción puede proporcionar una cierta profundización en la influencia del

compromiso sostenido con la escritura y la regeneración en el desarrollo de la segunda lengua de los niños.

Este amplio desafío se traduce en una serie de *preguntas de investigación*:

- 1) ¿Qué trayectorias son usadas por los niños cuando escriben una historia en respuesta a una serie de dibujos, analizan el feedback en forma de un texto modelo y reescriben sus textos originales? ¿Pueden las trayectorias desplegadas por los niños ser diferenciadas en términos de su potencial de aprendizaje de la lengua? ¿El uso de trayectorias por parte de los niños con mayor y menor potencial de aprendizaje de la lengua es mediado por la instrucción y / o su competencia lingüística en L2?
- 2) ¿Cómo se relacionan las trayectorias utilizadas por los niños con los cambios en la aceptabilidad y comprensibilidad de su producción escrita? ¿En qué medida esto está influido por a) la instrucción y b) por la competencia lingüística?
- 3) ¿Hay evidencia del desarrollo del segundo idioma en la producción escrita de los niños como resultado de la exposición a los textos modelo? Si es así, ¿esto está mediado por la instrucción y / o la competencia lingüística?

Esquema de la Tesis

La tesis se organiza en cinco capítulos diferentes. El capítulo 1 describe la justificación de la presente investigación y ofrece una breve visión general del papel del feedback escrito en el aprendizaje del segundo idioma, con especial énfasis en los estudiantes más jóvenes. Algunas limitaciones de la investigación actual se destacan antes de exponer los objetivos de la tesis. El capítulo 2 comprende los antecedentes teóricos y empíricos del estudio y expone las deficiencias que esta tesis pretende abordar. El Capítulo 3 describe el Método e incluye información sobre los participantes y los procedimientos utilizados para recopilar y analizar los datos cualitativamente. En el Capítulo 4, se presentan los resultados de las tres preguntas de investigación. Por último, en el capítulo 5, se resumen los principales hallazgos de la tesis y se discuten las cuestiones más destacadas en relación con la literatura existente. También se proponen implicaciones pedagógicas para el uso de modelos como una técnica de feedback escrito. A continuación se identifican las limitaciones de la tesis y se hacen sugerencias para futuras investigaciones.

Capítulo II. Revisión de la literatura

Este capítulo está dedicado a la revisión del marco teórico y los principales estudios relacionados con la presente investigación.

II.1. El potencial de aprendizaje de la lengua del feedback escrito

El feedback escrito puede ponderarse desde dos perspectivas teóricas y metodológicas que tienen objetivos diferentes. Por un lado, los estudios de escritura en L2 han visto al feedback escrito como un medio de ayudar a los estudiantes a mejorar la calidad de sus textos escritos (Ellis, 2010; Ferris, 2010). Por otra parte, los estudios centrados en la adquisición de la segunda lengua destacan el potencial del feedback escrito como herramienta pedagógica que puede facilitar el desarrollo lingüístico de los alumnos (Manchón, 2009, 2011b; Ortega, 2009). El presente estudio, enmarcado dentro de la línea de investigación de la escritura para aprender la lengua, intenta contribuir al debate alrededor del potencial de aprendizaje de la lengua (LLP) del feedback escrito.

El razonamiento teórico que sustenta la opinión de que el feedback puede ser útil para el aprendizaje de segundo idioma está fundamentado por perspectivas tanto cognitivas como socioculturales sobre el aprendizaje. Los marcos teóricos cognitivos incorporan conceptos como la atención a la forma (Doughty & Williams, 1998, Long, 2000) ya que es ampliamente aceptado que alguna forma de atención a las características formales de la L2, dentro de un contexto de comunicación, es necesaria para acelerar el proceso de adquisición del lenguaje (Ellis, 2005; Long & Robinson, 1998; Norris y Ortega, 2000). Una de las formas de fusionar la atención con la forma y el uso significativo del lenguaje es proporcionando a los estudiantes información sobre sus errores de lenguaje en el contexto de una tarea de comunicación escrita.

La perspectiva cognitiva también incluye hipótesis influyentes de la adquisición de la segunda lengua como la hipótesis del ‘Noticing’ (Schmidt, 1990, 1994, 2001) y la hipótesis del ‘Output’ (Swain, 1985), 1995, 1998, 2000, 2005). La idea central de la primera hipótesis es que la percepción es un proceso cognitivo crucial, que puede facilitar el desarrollo del lenguaje cuando los estudiantes enfocan conscientemente su atención en características específicas del segundo idioma pudiendo así notar (i) relaciones entre la

forma y la función, (ii) los agujeros o lagunas en su propia interlengua, (iii) la brecha entre su interlengua y la L2. Con respecto a la segunda hipótesis, esta sugiere que el acto de producir el lenguaje (hablar o escribir) constituye no sólo el resultado del aprendizaje de la segunda lengua sino que también es una parte vital del proceso (Swain, 1985). En ella se resalta la idea de que el aprendizaje óptimo del segundo idioma debe incluir oportunidades para el uso significativo del lenguaje tanto en las actividades de expresión oral como de escritura.

La teoría sociocultural también ha avanzado nuestra apreciación del potencial de aprendizaje del lenguaje del feedback a través de la importancia atribuida al desarrollo cognitivo como una actividad socialmente situada. Inherente a esta idea está la premisa Vygotskiana de que la apropiación individual del conocimiento lingüístico puede ser co-construida a través del diálogo colaborativo durante las tareas de resolución de problemas.

II.1.1. 4. Etapas en el procesamiento cognitivo del feedback escrito

Bitchener y Storch (2016) se han basado en el modelo integrado de adquisición de segundo idioma de Gass (1997) para describir las etapas involucradas en el procesamiento cognitivo de un único episodio de feedback escrito (ver Figura 1 en la sección II.1.1. 4.de la tesis). La primera etapa del modelo es conocida como apercepción. Antes de que los estudiantes puedan beneficiarse del feedback en su escritura, primero deben notar o percibir la existencia de una brecha entre su conocimiento actual de IL y la L2. Para activar este proceso, los estudiantes deben elegir activamente atender a la feedback (i) mostrando cierto grado de alerta o disposición para aprender, (ii) orientando el enfoque de su atención hacia la forma de lenguaje y no sólo al significado, y finalmente (iii) detectando o registrando cognitivamente la presencia del feedback. Los estudiantes pueden entonces tomar conciencia del desajuste entre su producción y el feedback, y dependiendo de una serie de conocimientos individuales (conocimientos de L2 existentes, capacidad de procesamiento, motivación, competencia, etc.) y externos (explicitación del feedback, experiencia previa de aprendizaje; Complejidad del discurso) también puede (o no) llegar a comprender la naturaleza de la brecha.

II.1.1. 5. La influencia de factores internos y externos en el procesamiento cognitivo de WCF

Factores internos del aprendiz

Los niños como procesadores de capacidad limitada

El grado en que los estudiantes notan, comprenden e integran las nuevas formas de L2 del feedback en su sistema interlengua dependerá en gran parte de su capacidad de procesar la información en sus memorias de trabajo. El modelo de capacidad limitada (Skehan, & Foster, 2001) predice que los estudiantes pueden experimentar restricciones atencionales en el procesamiento del feedback cuando tienen menos capacidad en su memoria a corto plazo. En este sentido, es probable que los niños, como procesadores de capacidad limitada (McLaughlin, Rossman & McLeod, 1983) experimenten dificultades incluso en las etapas iniciales del procesamiento del feedback, ya que su conocimiento limitado de la L2 puede obligarlos a confiar en pistas semánticas y contextuales, inhibiendo la atención a la forma (Izumi, 2003).

Competencia en la segunda lengua

Si los estudiantes tienen o no éxito en el procesamiento del feedback también depende en gran medida de su nivel de competencia en el segundo idioma. Se deduce que es más probable que los estudiantes de mayor dominio se involucren en actividades de escritura y procesamiento con mayores niveles de esfuerzo y atención y, por lo tanto, pueden hacerlo con más éxito, como evidencian recientes investigaciones (e.g. Suzuki, Itagaki, Takagi y Watanabe, 2009).

Desarrollo evolutivo

La limitada capacidad de procesamiento de los estudiantes más jóvenes y menos competentes se complica aún más por la noción de que pueden no estar preparados para beneficiarse plenamente de las ventajas ofrecidas por el feedback o la instrucción formal. Sin embargo, también se ha señalado que la base de la investigación sobre las etapas de desarrollo de la adquisición no es directamente transferible a los escenarios de instrucción o la provisión de feedback (De Keyser, 1998, Ellis, 1997).

Compromiso afectivo con el feedback

Además de los factores cognitivos internos del aprendiz que influyen en la atención de los estudiantes y en las respuestas al feedback, las variables afectivas pueden mediar también en cómo los estudiantes se comprometen con las correcciones, reformulaciones o versiones de modelos de su trabajo. Es probable que las experiencias de los estudiantes en el aula con la escritura y el feedback influyan en su motivación y creencias con respecto al valor de estas actividades y el interés que invierten en procesarlas (Bitchener & Ferris 2012). En este sentido, la noción de compromiso del alumno ha recibido cada vez más atención por parte de investigadores que han analizado las respuestas cognitivas, conductuales y afectivas mostradas por los alumnos hacia diferentes tipos de feedback, incluyendo la aceptación o rechazo del mismo (Han y Hyland, 2015; Storch & Wigglesworth, & Storch, 2012; Tocalli- Beller & Swain, 2005).

Factores externos del alumno

Interacción colaborativa en el aprendizaje de segunda lengua

En línea con las perspectivas socioculturales sobre el papel del diálogo colaborativo en la adquisición del segundo idioma, y particularmente con Swain (2006, 2010), se piensa que la reflexión conjunta sobre el lenguaje durante las tareas de escritura y feedback crea importantes oportunidades para que los estudiantes aumenten su conocimiento del segundo lenguaje. Lo que Donato (1994) ha denominado "andamiaje colectivo", promueve la creación de nuevos conocimientos a través de la reflexión colaborativa sobre el lenguaje. Swain (2006) se ha referido a esto como 'languaging' o "el proceso de crear significado y formar el conocimiento y la experiencia a través del lenguaje" (p98).

El papel mediador de la Instrucción

Otro factor que puede afectar a las respuestas de los estudiantes al feedback es la instrucción sobre cómo aprovechar al máximo el feedback proporcionada. En algunas aulas de L2 y FL donde el enfoque en las actividades de escritura y forma suele ser la norma, los estudiantes pueden estar bien acostumbrados a recibir y analizar el feedback. Esto es generalmente cierto para los estudiantes mayores que a menudo están más motivados para atender a la información proporcionada sobre sus errores lingüísticos. Sin embargo, en las clases con niños las tareas de escritura y la provisión de feedback se pasan por alto a menudo en favor de las tareas de comunicación oral. Esto significa que los niños no sólo no están familiarizados con la escritura con regularidad en la L2, sino

también que tienen muy poca experiencia con la manipulación de comentarios sobre sus textos. De ello se deduce que la instrucción dirigida específicamente a ayudar a los alumnos a identificar y comprender la naturaleza de los errores en su producción escrita podría potencialmente mejorar la calidad de su notificación y tramitación del feedback.

Tipos de feedback

El feedback escrito puede ser entregado en una variedad de maneras distintas que varían en cuanto a su grado de explicitud incluyendo (a) directa (indicación explícita de un error), (b) indirecta (señalando que se ha cometido un error) o (c) metalingüística (que proporciona una explicación o una regla) y su enfoque, desde la corrección integral de todos los errores hasta la selección selectiva de características lingüísticas específicas. Se han presentado varios argumentos en apoyo de estos diferentes tipos de feedback y numerosos estudios han investigado sus alegaciones. Sin embargo, como se mencionó anteriormente, la utilidad relativa de los diferentes tipos de feedback dependerá en gran medida de los factores internos del alumno, incluyendo su capacidad de procesamiento y nivel de conocimiento de la lengua, así como la naturaleza de la información proporcionada en la retroalimentación y la complejidad del enfoque lingüístico (Bitchener, 2012).

Como la relación entre feedback y el desarrollo del segundo idioma sigue siendo una cuestión abierta, ha habido un interés creciente en los últimos años en la exploración de técnicas de feedback alternativas, incluyendo reformulaciones o modelos de textos (véase Adams, 2003, Qi y Lapkin, 2001; Hanaoka, 2006, 2007, Hanaoka & Izumi, 2012). Ambos tipos de comentarios más discursivos consisten en proporcionar a los estudiantes textos enteros en lugar de listas detalladas de errores explícitamente corregidos, símbolos de edición o códigos metalingüísticos. La reformulación, tal como la define Levenson (1978, en Qi & Lapkin, 2001), es "la reescritura de un hablante nativo de la composición de un alumno de L2, de modo que se mantiene el contenido que el alumno proporciona en el borrador original, pero su estilo, insuficiencia léxica y los errores gramaticales son corregidos" (p281). Al mantener intacto el contenido del texto original, el texto reescrito proporciona a los estudiantes una versión de escritor nativo que pueden compararse con su propio borrador (Qi y Lapkin, 2001). Sin embargo, como señaló Allwright, Woodley y Allwright (1988), "una buena reformulación puede no ser una buena muestra de la escritura nativa, ya que está limitada por su fidelidad a las intenciones del escritor

original" (p.254). Como resultado, las reformulaciones pueden no proveer al estudiante con lenguaje o ideas más allá de las expresadas en el borrador original. Por lo tanto, se han utilizado textos modelo para contrarrestar esta deficiencia.

II. 2. El uso de modelos como técnica de feedback

Los modelos implican el uso de textos nativos o casi nativos que los estudiantes comparan con su escritura original. A diferencia de la reformulación, los modelos se escriben teniendo en cuenta el contenido y el género del texto, así como la edad de los alumnos, el nivel de competencia, etc., pero sin referirse a los textos reales producidos por los estudiantes. El uso de modelos es una técnica relativamente poco explorada para proporcionar feedback sobre los errores en L2 del alumno. Tradicionalmente, los modelos se dieron a los estudiantes antes de participar en la escritura en un esfuerzo para ayudarles a mejorar sus habilidades de escritura. Sin embargo, cuando se muestra un texto modelo antes de escribir, los estudiantes a menudo recurren a copiarlo, lo que significa que son menos propensos a participar en la discusión reflexiva de la lengua y el contenido del modelo proporcionado. Por lo tanto, pueden no haber activado procesos cruciales de atención y notar. En la actualidad, se considera que los modelos desempeñan un papel más importante de lo que se pensaba originalmente. No sólo pueden proporcionar conjuntos ricos de palabras y estructuras L2 apropiadas para un contexto dado, sino que también pueden incluir ideas y contenidos alternativos y estimular el conflicto cognitivo presentando información que contradice las creencias de los estudiantes sobre cómo funciona el lenguaje (Tocalli-Beller & Swain, 2005). Puesto que los errores no son explícitamente señalados, los estudiantes son empujados a identificar activamente sus propios errores, un proceso que puede conducir a un procesamiento más profundo (Adams, 2003; Sachs & Polio, 2007). Por último, los modelos pueden ayudar a los alumnos a notar tanto las similitudes como las diferencias entre su interlengua y la segunda lengua, un proceso que les permitiría no sólo reevaluar sus conocimientos sino también confirmarlos (Sachs & Polio, 2007). Al dar a los estudiantes un texto modelo después de que la tarea de escritura haya sido completada, los estudiantes pueden estar más alerta a la detección de las características del texto del modelo que ellos mismos encontraron problemáticos en sus borradores iniciales, incluyendo los que evitaron debido a sus limitadas (Hanaoka, 2006a), fomentando así la atención selectiva a aspectos específicos de la L2. Cuando el enfoque de la observación de los estudiantes desde el

modelo se entiende en el sentido descrito por Gass (1997), es decir, tanto sintáctica como semánticamente, podría utilizarse potencialmente como feedback para la adquisición (Manchón, 2011a). Además, desde un punto de vista práctico, ofrecer un modelo de texto a toda la clase es más manejable para el profesor, y no menos beneficioso, que la tarea de reformular los textos escritos de cada estudiante en una clase (Ferris, 2010).

II. 2. 1. Investigación empírica sobre el uso de modelos

Hasta la fecha ha habido poca investigación empírica sobre el uso de modelos como técnica de feedback. Diversos estudios han explorado los modelos con estudiantes universitarios de EFL (Hanaoka, 2006a, 2007; Abe, 2008) y estudiantes de ESL (Martínez & Roca de Larios, 2010) y niños de primaria (Cánovas et al, 2015). Los modelos también se han comparado con reformulaciones con estudiantes adultos de EFL (Hanaoka, 2006b), y con estudiantes universitarios de EFL (Yang & Zhang, 2010) tanto individual como colaborativa escritura. Y finalmente, los modelos se han comparado con la corrección de errores con niños estudiantes de EFL (Coyle & Roca de Larios, 2014).

Los hallazgos de estos estudios han destacado varias ventajas para los modelos. Se los considera unánimemente útiles para fomentar la percepción léxica. Esto es especialmente cierto para los estudiantes con mayor nivel de competencia (Abe, 2008; Cánovas et al, 2015; Hanaoka, 2006b). Los modelos también parecen ser ventajosos para promover la percepción de expresiones e ideas alternativas que ayuden a los estudiantes, especialmente a aquellos que trabajan en colaboración, a mejorar sus textos escritos (Coyle & Roca de Larios, 2014; Martínez y Roca de Larios, 2010). Los estudios que han comparado modelos y reformulaciones o modelos y corrección de errores (Coyle & Roca de Larios, 2014) han enfatizado los diferentes pero complementarios roles desempeñados por ambos tipos de feedback. Yang y Zhang (2010) informan que cuando se enfrentaron a una versión reformulada de su propia escritura, los estudiantes parecían identificar sus errores originales con mayor facilidad. Los modelos, sin embargo, fueron útiles para proporcionar a los estudiantes con vocabulario alternativo y expresiones que no estaban presentes en su propia escritura. De manera similar, Hanaoka e Izumi (2012) sugieren que aunque las reformulaciones proporcionaron soluciones para los problemas manifiestos en la producción escrita de los estudiantes, los textos modelo permitieron a los estudiantes encontrar soluciones para problemas abiertos y encubiertos. Estos últimos se refirieron a

los problemas que habían experimentado al formular su texto inicial, pero habían evitado incorporarlos al proyecto original. Los autores concluyen que aunque las reformulaciones pueden ser instrumentales para ayudar a los alumnos a identificar deficiencias lingüísticas, no proporcionan contenido opcional a lo que ya es correcto en sus textos originales. Los modelos, por el contrario, desempeñan un doble papel de abordar tanto la forma como el significado al proporcionar a los estudiantes una gama de expresiones diversas e ideas nuevas (Hanaoka, 2006a). Coyle y Roca de Larios (2014) informaron de una tendencia similar, que hace hincapié en el valor de la CE y de los modelos para promover la percepción de los niños y ayudarlos a diversificar sus preocupaciones lingüísticas.

Los estudios sobre el procesamiento de los modelos descritos anteriormente han proporcionado apoyo empírico sobre el potencial de modelos como una técnica de feedback con estudiantes de diferentes edades y habilidades. Lo que queda por ver es si este potencial puede promover beneficios durante un período de tiempo más largo y si la instrucción podría ayudar a los jóvenes a hacer un mejor uso de los mismos (Cánovas et al., 2015).

II. 2. 1. 1. El enfoque de investigación de los estudios que investigan el procesamiento de modelos por parte de los alumnos

Análisis de los datos en la etapa inicial de escritura

A pesar de las numerosas aportaciones de los estudios mencionados anteriormente, éstos no están exentos de limitaciones (ver Tabla 1 en la sección II. 2. 1. 1. de la tesis). Muchos estudios no nos dicen nada sobre cómo los problemas de los estudiantes al escribir fueron manejados estratégicamente (Coyle & Roca de Larios, 2014; Hanaoka, 2006b; Martínez Esteban & Roca de Larios, 2010). Esto limita necesariamente la interpretación que pueden ofrecer de cómo la producción escrita podría afectar los procesos mentales implicados en la escritura y el análisis del feedback. Con el fin de explorar más a fondo el potencial de aprendizaje del lenguaje del feedback, parece importante identificar las maneras en que los estudiantes pasan de identificar un problema a encontrar una solución mientras escriben en L2 (Swain y Lapkin, 1995). Al externalizar sus procesos de pensamiento, ya sea a través del diálogo colaborativo o pensar en voz alta, los estudiantes

pueden revelar representaciones defectuosas o incompletas del conocimiento, que podrían ser objeto de retroalimentación relevante para avanzar en su desarrollo de L2.

Otros estudios sobre modelos si han examinado la resolución de problemas de los alumnos pero limitándose a dos categorías de problemas resueltos y no resueltos (Cánovas Guirao et al, 2015; Hanaoka, 2006a, 2007; Hanaoka & Izumi, 2012; Yang y Zhang, 2010). Esta manera se presenta como muy restrictiva, ya que no contempla otras posibilidades disponibles para los estudiantes al intentar escribir sus textos iniciales. Éstos podrían incluir, por ejemplo: (i) problemas en los textos escritos de los alumnos de los que no sean conscientes y que no aparezcan en sus notas escritas o diálogos colaborativos, y (ii) problemas que, por el contrario, son notados pero evitados o parcialmente evitados y por lo tanto no siempre aparecen en sus textos escritos.

Sobre la base de estas deficiencias, parece teóricamente útil desarrollar un esquema de codificación más amplio y más inclusivo en la etapa 1 que dé cuenta no sólo de la dicotomía resuelta / no resuelta utilizada por la mayoría de los investigadores, sino también de problemas no comunicados y la ausencia de características problemáticas que podría estar conectado a futuras observaciones y revisiones.

Análisis de datos en la etapa de comparación con el feedback

El enfoque en todos los estudios mencionados anteriormente ha sido sobre qué aspectos del lenguaje fueron observados por los estudiantes, pero no sobre cómo se involucraron con el feedback. Esto se debe en gran parte a la dificultad de vincular los procesos internos con los comportamientos observables de los alumnos. Como resultado, cuestiones cruciales como la conciencia, la comprensión y la profundidad del procesamiento se han ignorado. La investigación sobre modelos ha tendido a cuantificar el enfoque de la atención de los estudiantes, realizando otra dicotomía (notado o no). El análisis de la percepción de los datos como una experiencia de "todo o nada" pasa por alto la complejidad del fenómeno y no contempla otras posibilidades, algunas de las cuales han sido alertadas en varios de los estudios de investigación revisados. Estos incluyen ocasiones en las que los alumnos (i) sólo pueden notar algo en parte, (ii) notar algo nuevo o diferente en la retroalimentación que no está relacionado con su texto original o (iii) dejar de verbalizar lo que han notado. Las tres situaciones han sido mencionadas como factores intervinientes en al menos uno de los estudios sobre textos modelo, pero estas

circunstancias aún no han llevado a los investigadores a incorporar estos eventos como categorías analíticas estándar en la etapa 2.

Análisis de datos en la etapa de escritura revisada

La investigación sobre modelos como técnica de feedback ha examinado su impacto en la adopción por los estudiantes de (i) características lingüísticas que son trazables de un modelo u otros tipos de feedback y (ii) soluciones a problemas previamente identificados en las etapas 1 y / o 2. Sin embargo, al igual que con las categorías de observación de la etapa 2, las incorporaciones de feedback de los alumnos se han descrito en términos absolutos. Las características lingüísticas y el contenido del feedback son incorporados o no lo son. Una vez más, la lente estrecha con la que se han examinado los datos de la etapa 3 ha llevado a la exclusión de otros tipos de cambios que se encuentran a menudo en la escritura de los alumnos como: (i) las incorporaciones parciales, (ii) la repetición y eliminación de problemas resueltos, no resueltos o no reportados, (iii) incorporaciones nuevas que no están relacionadas con el feedback y (iv) la incorporación de soluciones a problemas usando fuentes de otro tipo distintas del feedback. Solamente Cánovas Guirao et al, (2015) y Yang y Zhang (2010) explicaron las incorporaciones parciales de los alumnos en sus respectivas codificaciones.

La gama de posibilidades abiertas a los estudiantes al volver a escribir sus textos originales es mucho más sutil de lo que generalmente se reconoce. Tomar en consideración esta idea es importante para profundizar nuestra comprensión del desarrollo del segundo idioma de acuerdo con la afirmación de Polio (2012) de que "desde una perspectiva de SLA, los cambios pequeños o de corto plazo pueden ser evidencia de aprendizaje" (p 377). Si esto es así, incluso los signos menores de progreso tendrán que ser tenidos en cuenta y sopesados contra las deficiencias en la escritura de los estudiantes. Esto es particularmente relevante cuando se trata de los datos de los niños que aprenden el segundo idioma y cuyas competencias limitadas justifican la inclusión de categorías de codificación más completas capaces de reflejar incluso pequeños signos de aprendizaje.

II. 3. Contribución del presente estudio

A lo largo de esta revisión de la teoría y la investigación sobre el potencial de aprendizaje del lenguaje del feedback escrito, se ha señalado una serie de cuestiones que requieren mayor exploración. En primer lugar, se hace necesario desarrollar un esquema de codificación sistemático e inclusivo para describir las diversas combinaciones de posibilidades o rutas disponibles para los estudiantes a lo largo de la tarea multi-etapa de escritura, además de identificar los mecanismos de procesamiento desplegados por los jóvenes aprendices de EFL al notar problemas en su producción escrita y soluciones en el feedback.

En segundo lugar, varias preguntas quedan sin respuesta. ¿La instrucción en clase que promueve la observación y la reflexión metalingüística ayuda a los estudiantes a diversificar sus preocupaciones lingüísticas para centrarse más en la forma de lenguaje? ¿Puede la reflexión colaborativa mientras se escribe y discute el feedback ayudar a los estudiantes a entender y procesar la L2 a través del intercambio de conocimientos? ¿Puede la combinación de ambos factores ayudar a los niños a avanzar más allá del umbral lingüístico impuesto por su bajo nivel de competencia? Estos son los temas que el presente estudio intentará explorar.

En tercer lugar, los estudios que se han examinado, han usado principalmente medidas cuantitativas, por lo que deberían hacerse esfuerzos para recopilar datos ricos y cualitativos para dilucidar las formas en que la participación de los estudiantes en tareas en varias etapas podría contribuir a su desarrollo lingüístico. Hasta donde sabemos, esto todavía no se ha intentado con niños estudiantes de EFL en un contexto instruccional y con textos modelo como la fuente de feedback.

Por último, sigue siendo una cuestión empírica si el compromiso a largo plazo con la práctica de la escritura y el feedback puede traer consigo el aprendizaje (Manchón, 2011b). La presente investigación pretende abordar estos desafíos en un intento de determinar si las diferentes acciones o trayectorias seguidas por los niños estudiantes de EFL al notar problemas en sus producciones escritas y al analizar modelos en colaboración podrían contribuir a la naturaleza de estos cambios graduales en su desarrollo de la interlengua durante un período de cinco meses. Al hacerlo, este estudio

añade una nueva dimensión a la exploración del potencial de aprendizaje de la lengua del feedback escrito.

Capítulo III. Método

Contexto de investigación y participantes

El presente estudio se realizó en un pequeño colegio público no bilingüe de un pueblo cercano a la ciudad de Murcia, en el sureste de España. Debido al reducido número de alumnos, algunas de las clases tenían dos cursos en el mismo aula. Los participantes del estudio fueron 16 niños formando un total de ocho parejas (9 niños y 7 niñas) de dos clases de EFL, 4º de Primaria (cuatro parejas de 9-10 años de edad) y 5º/6º de Primaria (8 niños, cuatro parejas, de 10-11 años de edad, respectivamente). Los participantes (ver Tabla 2 en la sección III.2. de la tesis) habían estado aprendiendo inglés durante 4 o 5 años, recibiendo, una media de 2 horas de clases de inglés a la semana experimentado pocas oportunidades de hablar o escribir libremente en el L2. Durante el año académico del estudio, su nuevo profesor de EFL (que fue también el investigador) implementó un enfoque más comunicativo en el aula basado en la promoción de la interacción y el uso productivo de la L2 a través de actividades orales y escritas como las tareas de escritura dentro de la presente investigación.

Las dos clases de EFL fueron designadas como grupo experimental o grupo de instrucción (grado 5/6) y grupo de control o grupo sin instrucción (grado 4), ya que a pesar de la diferencia de edad, los niños de ambas clases tenían un nivel igualmente bajo de competencia en L2. Dentro de cada grupo, los niños fueron colocados en parejas según su nivel de competencia (alto o bajo) en base a las pruebas de clase y la capacidad de los niños para trabajar juntos.

Diseño de la investigación

El presente estudio empírico fue de naturaleza exploratoria y longitudinal. Se adoptó un enfoque de estudio de casos (Duff, 2012) con el fin de examinar de cerca el desempeño de los niños durante un período de tiempo prolongado. Se esperaba que al examinar en profundidad los patrones de desarrollo de un pequeño grupo de estudiantes, pudiéramos

obtener información sobre su escritura y procesamiento del feedback escrito, lo que podría ampliar nuestro conocimiento del potencial de aprendizaje de idiomas que ambos recursos ofrecen. Proporcionar una descripción cualitativa de las trayectorias o caminos seguidos por los estudiantes de diferentes niveles de competencia y bajo diferentes condiciones de instrucción, en combinación con la comparación de su producción escrita a través de cuatro períodos diferentes (los borradores originales y las versiones revisadas en dos ciclos de escritura) se hacía más deseable para nuestros objetivos de investigación que pruebas estadísticas a gran escala con una población más grande. En consecuencia, se diseñó una intervención con dos ciclos de escritura de una semana (composición, comparación y reescritura. Ver figura 2 en la sección III.3 de la tesis), con un intervalo de cuatro meses, que fueron realizados tanto por el grupo de instrucción como por el grupo sin instrucción. Además, después del primer ciclo, se implementó un período de enseñanza de seis semanas y se dirigió sólo al primero. Los datos se recogieron durante un período de cinco meses (de abril a septiembre). Se incluyó en el estudio un grupo de control con el fin de aislar cualquier posible diferencia resultante del tratamiento (instrucción). Esto se consideró importante puesto que la investigación sobre el uso de modelos hasta la fecha (Hanaoka, 2006, 2007, Yang & Zhang, 2010), con la excepción de Cánovas et al. (2015), no ha comparado sus resultados con los de un grupo control, y por lo tanto no ha proporcionado información sobre cómo un grupo sin tratamiento podría haber realizado la tarea en condiciones idénticas. Una vez finalizado el estudio, la instrucción se llevó a cabo con el grupo de control con el fin de que este también pudiera beneficiarse de las posibles ventajas derivadas de ella.

Durante el período de enseñanza, las parejas en el grupo de instrucción fueron ayudadas a utilizar modelos como una técnica de feedback. El profesor / investigador realizó esta intervención. Como parte del diseño de la investigación, se pidió a los participantes que escribieran una composición por parejas. La decisión de que los niños escribieran un texto de forma colaborativa fue motivada por la investigación con adultos que ha argumentado que la oportunidad de discutir con los compañeros los problemas que surgen durante el proceso de escritura parece promover la percepción del lenguaje en toda una gama de factores léxicos, sintácticos y así conducir a una resolución de problemas más eficaz (Swain y Lapkin, 2002).

Recogida de datos

Los procedimientos de recogida de datos consistieron en dos ciclos de escritura con varios etapas y un período de enseñanza, detallados a continuación:

Ciclo 1

El primer ciclo se implementó en el tercer trimestre del curso académico 2012-2013 durante la última semana de abril. Constaba de tres etapas: etapa 1 (tarea de composición), etapa 2 (comparación con el modelo) y etapa 3 (tarea de reescritura). Estas tareas fueron grabadas (con una grabadora de audio) y llevadas a cabo por todas las parejas de ambos grupos. En el primer ciclo, la mayoría de las parejas realizaron cada tarea en una media de 20 minutos.

En la Etapa 1 (Etapa de Composición), se pidió a los niños escribir conjuntamente una historia en respuesta a un conjunto de imágenes (Apéndice 1) y discutir cualquier problema que encontraron mientras escribían la composición tratando de llegar a un acuerdo sobre cómo resolver esos problemas. Los dibujos utilizados en la tarea 1 consistían en 6 imágenes que ilustraban una simple historia sobre una bruja, dibujada por otro profesor de EFL y co-investigador teniendo en cuenta la edad de los niños y el nivel de competencia de L2. A los niños se les pidió que escribieran una historia usando las imágenes pero no se dieron indicaciones sobre el uso de vocabulario específico, expresiones o tiempos verbales. Varios ejemplos de las composiciones de los niños en la etapa 1 se proporcionan en apéndices (Apéndice 2).

En la Etapa 2 (Etapa de comparación), dos días después de completarse la primera etapa, se proporcionaron a las parejas las historias que habían escrito y dos textos modelo (apéndice 3). Se les pidió que compararan su texto con los modelos discutiendo cualquier diferencia que pudieran encontrar entre los textos. También fueron instruidos para subrayar las diferencias en el modelo y / o hacer una nota escrita de ellos en la misma hoja. Los ejemplos de lo que los niños subrayaron y / o escribieron se muestran en la hoja de comparación, apéndice 4. Inicialmente, se utilizaron dos textos modelo, siguiendo a Hanaoka (2007b), "para reducir la probabilidad de copiar sin pensar de los participantes a partir de un solo texto modelo y para aumentar la posibilidad de proporcionar soluciones a los problemas que los participantes notaron accidentalmente "(p.462). Sin embargo, el modelo 2 se descartó más tarde (en el ciclo 2), ya que los niños tendían a centrarse

exclusivamente en el primer modelo. Los textos modelo utilizados en el estudio fueron escritos por el profesor / investigador teniendo en cuenta la historia ilustrada en las imágenes y el nivel de inglés de los niños. Puesto que los niños no estaban todavía completamente familiarizados con el tiempo pasado, el texto modelo fue escrito en el tiempo presente. Sin embargo, se escribió un poco por encima del nivel actual de competencia lingüística de los niños, de modo que podría suponer un desafío cuando los estudiantes lo compararan con sus composiciones originales.

En la etapa 3 (etapa de reescritura), una semana después de haber completado la tarea en la etapa 1, se les dio a los niños las imágenes nuevamente y se les pidió que reescribieran sus historias (para ejemplos de las historias revisadas véase el apéndice 5). La decisión de no dar a las parejas su texto original producido en la etapa 1 fue hecha para reducir la posibilidad de que los niños simplemente copiaran de su texto, y para incrementar la probabilidad de proporcionar nuevas soluciones a los problemas que notaron (Hanaoka, 2007).

Periodo de enseñanza

Después de completar el ciclo 1, se dedicó un período de 6 semanas (mayo-junio) a la instrucción del grupo de enseñanza sobre cómo utilizar modelos. En sus clases de EFL, una lección semanal (una lección normal de 60 min) se dedicó a enseñar a los niños a comparar diferentes textos modelo con sus borradores iniciales. Mientras tanto, el grupo de control recibió lecciones ordinarias de inglés.

Las seis clases de enseñanza se dividieron en dos partes (ver figura 3, sección III.4.2. dentro de la tesis). En primer lugar, los niños completaron una etapa de composición (20 min) en parejas y luego participaron en una actividad de toda la clase en la que el profesor les guió en cómo utilizar un texto modelo para fines de comparación (40 min). En la etapa de composición, a los niños se les pidió que escribieran una historia en parejas en respuesta a un conjunto de imágenes (Apéndice 6 a 11). En el proceso de comparación guiada, se utilizaron seis modelos de las historias (apéndice 12) escritas por el profesor y adaptadas a la edad de los niños y el nivel de competencia de L2. En segundo lugar, la comparación guiada se realizó del siguiente modo con las 4 parejas del grupo de enseñanza a través de discusiones de toda la clase. Una vez que las historias de los niños fueron escritas y recogidas, los estudiantes recibían de nuevo los dibujos y la maestra les

pidía que lo describieran en la L1 para que el significado de los dibujos pudiera aclararse colectivamente. A continuación, la maestra proyectaba el modelo en el IWB y escribía el texto original de una pareja en la pizarra (cada semana de una pareja diferente). La maestra leía en voz alta ambos textos y los niños siguieron la lectura en silencio. A los niños se les pedía que identificaran todas las diferencias que pudieran encontrar entre el texto del modelo y la versión de sus compañeros de clase. La maestra iba subrayando y anotando las diferencias en la pizarra pero a los niños no se les permitía tomar notas hasta finalizar la tarea con el fin de que prestaran atención. Como los niños son competitivos por la naturaleza, pronto toda la discusión de la clase se convirtió en un juego para los estudiantes que trataban de encontrar tantas diferencias como fuera posible. Con el fin de evitar la tendencia de "solo detectar la diferencia" detectada en estudios previos con niños (Cánovas Guirao, et al, 2015), se pidió a los estudiantes que explicaran la razón detrás de cada diferencia notada. Los niños levantaban las manos cuando encontraban una diferencia y trataban de explicar al resto de la clase una razón para justificar la diferencia con la ayuda del maestro, ya que en muchas ocasiones los niños identificaban una diferencia pero no podían proporcionar una explicación metalingüística, especialmente con aspectos gramaticales. Por ejemplo, los estudiantes a menudo hicieron comentarios como "no añadieron la -s " o "deberían haber puesto un -s al final ", sin embargo, no podían explicar la regla lingüística que subyace a la diferencia. Como resultado, la profesora dedicó bastante tiempo en cada sesión explicando las reglas gramaticales más relevantes como la tercera persona del singular del presente simple, la conjugación del verbo 'to be' or 'be auxiliar'.

A través de esta clase de discusión dirigida, el profesor trató de aumentar la conciencia de los niños sobre cinco categorías: (i) el contenido de la historia, (ii) la estructura de la oración, (iii) la gramática, (iv) el vocabulario y (v) el discurso (ver tabla 3, sección III.4.2. dentro de la tesis).

Ciclo 2

Después de las vacaciones de verano, en el primer trimestre del curso académico 2013-2014, el Ciclo 2 se implementó durante la última semana de septiembre. En este ciclo, la misma tarea en tres etapas (composición, comparación y reescritura) que en el ciclo 1, fue llevada a cabo por los niños de ambos grupos. En este ciclo, usamos una historia de seis dibujos diferente (una historia sobre un científico, dibujado por el mismo co-

investigador, Apéndice 13) que tenía en común con el utilizado en el Ciclo 1 el mismo nivel de dificultad. Como se ha señalado anteriormente, en este ciclo tomamos la decisión pedagógica de utilizar un solo modelo (Apéndice 14) teniendo en cuenta las dificultades que los niños encontraron en el ciclo 1 al confrontar el proceso de comparación de sus textos con dos modelos. En este ciclo, las posibles ganancias derivadas de la instrucción serían observadas (véanse los apéndices 15, 16 y 17 para ejemplos de textos originales, hojas de comparación y textos revisados en el ciclo 2, respectivamente).

Análisis de los datos

Los datos del estudio consistieron en:

- 1) 16 textos narrativos y 16 audio-grabaciones con todas las discusiones de los participantes sobre sus historias originales (Ciclo 1 y Ciclo 2).
- 2) 16 conjuntos de notas escritas y 16 grabaciones de audio de las conversaciones de las parejas durante la comparación de su texto con el modelo (Ciclo 1 y Ciclo 2).
- 3) 16 textos narrativos reescritos y 16 grabaciones de audio con la discusión de los niños de la historia revisada. (Ciclo 1 y Ciclo 2).

Análisis de los procesos en las diferentes etapas

La naturaleza cualitativa del estudio significó que los datos fueron analizados cíclicamente (ver figura 4, sección III.5.1. dentro de la tesis). En primer lugar, los datos se analizaron por separado en cada etapa individual (etapa 1, composición; etapa 2, comparación; etapa 2, reescritura) antes de realizar un análisis combinado de las tres etapas en ambos ciclos con el fin de obtener datos longitudinales de antes y después la intervención. La identificación de las categorías de codificación se obtuvo inductivamente a través de múltiples lecturas de los protocolos de diálogo y refinamiento cuidadoso de las categorías para llegar a las definiciones por consenso. El análisis de todo el corpus de datos fue realizado por el investigador en colaboración con ambos supervisores de la tesis a lo largo de todo el estudio.

Etapas 1: Etapa de composición

En primer lugar, las grabaciones de audio de los diálogos de las parejas fueron transcritas para su análisis. A continuación, cada protocolo resultante se segmentó en episodios relacionados con el lenguaje (LRE), y cada episodio fue codificado con respecto a (i) los aspectos lingüísticos atendidos (lexis, forma o discurso. Ver tabla 4, sección III.5.1.1.),

(ii) los procedimientos utilizados por los participantes para resolver los problemas que se planteaban (traducción, búsqueda léxica, búsqueda morfológica y búsqueda ortográfica. Tabla 6, III.5.1.1.) y (iii) la resolución del episodio (resuelto / no resuelto. Tabla 5, III.5.1.1.).

Etapa 2: etapa de comparación

En esta etapa, se examinaron las notas escritas de los niños y las transcripciones de sus diálogos al comparar sus textos originales con el modelo para describir cómo enfocaron sus procesos de atención durante la tarea. Lo que las parejas notaban no sólo fue operacionalizado como lo que verbalizaran al analizar el modelo, lo que subrayaron o anotaron. En cuanto a las estrategias que utilizaban los niños, se identificaron un total de cuatro diferentes que utilizaban todas las parejas: (i) detectar la diferencia, (ii) traducción, (iii) llenar un agujero o laguna y (iv) el razonamiento metalingüístico (Definiciones y ejemplos en tabla 8 de la tesis). Además, las discusiones de los niños también fueron codificadas según el grado de comprensión que mostraron explícitamente al analizar el feedback (ver Tabla 7 para definiciones y ejemplos).

Etapa 3: etapa de reescritura

En la etapa 3, los datos se codificaron de la misma manera que en la Etapa 1.

Análisis de la producción escrita

Con el fin de identificar el desarrollo potencial en el grado de aceptabilidad lingüística y comprensibilidad de la producción escrita de los niños de sus textos originales y revisados en ambos ciclos, una versión adaptada del esquema de codificación de Torras (2005) fue aplicada a los datos. Los textos de las parejas fueron codificados en unidades lingüísticas, cláusulas o subcláusulas. Se identificaron tres unidades: pre-cláusulas, proto-cláusulas y cláusulas, tal como se definen y ejemplifican en la Tabla 9 (sección III.5.2. de la tesis). Por último, con el fin de establecer una comparación más global de la exactitud de los textos originales y revisados de los niños, al igual que los estudios anteriores que exploraban la eficacia del feedback escrito (por ejemplo, Chandler, 2003, Truscott y Hsu, 2008, Van Beuningen, 2011), se utilizó una ratio de error para medir la precisión general: $[\text{número de errores lingüísticos} / \text{número total de palabras}] \times 10$ (Tabla 10, sección III.5.2).

Análisis a través de las etapas de procesos y productos

Identificación de trayectorias

La siguiente fase del análisis de datos se llevó a cabo transversalmente a través de las tres etapas en ambos ciclos (ver Figura 4, sección III.5.1.). El análisis involucró el intento de establecer conexiones entre (i) cada LRE problemático identificado en los diálogos de las parejas en la etapa 1; (ii) las posibles soluciones o alternativas ofrecidas por el modelo cuando eran disponibles; (iii) la observación (o no) por parte de los niños de estas soluciones en la etapa 2, (iv) las modificaciones introducidas en sus textos revisados en la etapa 3 como resultado del procesamiento previo del feedback, y (v) el impacto de dichos cambios en términos de desarrollo del lenguaje. Para ello, cada problema identificado (o no) por los niños fue cuidadosamente rastreado desde su origen en la etapa 1 a través de la fase de comparación y reescritura. Como resultado, se establecieron varias categorías basadas en datos para describir toda la gama de opciones posibles disponibles para los niños en las diferentes etapas de la tarea de escritura (ver Tabla 11, sección III.5.3.). Por lo tanto, cualquiera de las opciones de la columna de la etapa 1 (problemas) podría ser combinada horizontalmente con cualquiera de las posibilidades en la etapa 2 (modelo y procesos de detección) y de nuevo con cualquiera de las opciones disponibles en la columna de la etapa 3 (reescritura). Todo ello dio lugar a una serie de trayectorias que se presentarán en la sección Resultados (véase la pregunta 1 de la investigación).

Identificar el potencial de aprendizaje lingüístico de las trayectorias

Habiendo identificado una serie de trayectorias interrelacionadas utilizadas por los estudiantes durante el proceso de escritura, feedback y reescritura, y en línea con la opinión de que la naturaleza del proceso lingüístico involucrado en estas actividades puede impactar en los resultados del aprendizaje (Manchón, 2011). Se intentó clasificar las trayectorias según su potencial de aprendizaje. Para fines de codificación, se tomaron en cuenta dos parámetros: i) el grado de observación o ‘noticing’ (no evidencia de notar, parcialmente notado o notado completamente) y ii) el impacto de esta observación en sus textos revisados en la etapa 3. El impacto se describió en términos de resultados escritos y se codificaron como (i) mejoras, (ii) mejoras parciales o (iii) inconvenientes (las definiciones y ejemplos de estas categorías se proporcionan en la Tabla 12, sección III.5.3.). Un ejemplo completo del análisis combinado proceso-producto se presenta en la Tabla 13 dentro del cuerpo de la tesis (sección III.5.3.). Esta información combinada producto-proceso condujo a la identificación y clasificación de las trayectorias a lo largo

de un continuo según si se percibían como más potencial de aprendizaje de lengua (MLLP) o menos potencial de aprendizaje de lengua (LLLP).

Con el fin de identificar cómo la clasificación teórica de las trayectorias MLLP y LLLP coincidía con los cambios en los textos de los niños, se calcularon las frecuencias brutas de las transiciones entre unidades clausales entre los textos de la primera fase y los textos revisados en la etapa 3. Se consideraron tres tipos de transiciones:

- (i). Transiciones entre diferentes unidades clausales (Pre-cláusula \rightarrow Proto-cláusula, Proto-cláusula \rightarrow Clause, Pre-cláusula \rightarrow Clause)
- (ii). Transiciones entre unidades clausales similares (Pre-cláusula \rightarrow Pre-cláusula, Proto-cláusula \rightarrow Proto-cláusula, Cláusula \rightarrow Clause)
- (iii). Transiciones que implicaron la adición (X \rightarrow Pre-cláusula, X \rightarrow Proto-cláusula, X \rightarrow Clause) o supresión de unidades clausales (Pre-cláusula \rightarrow X, Proto-cláusula \rightarrow X, Cláusula \rightarrow X).

Dentro de cada uno de los tres patrones de transición, se identificaron las trayectorias que las parejas usaron con lo que consideramos MLLP y LLLP en relación con las mejoras, mejoras parciales y desventajas que habían articulado entre grupos, niveles de competencia y ciclos (véase la Tabla 11 y tabla 14 que ejemplifica el procedimiento microanalítico utilizado).

Las características lingüísticas de los textos y su desarrollo de la competencia en la segunda lengua

La tercera pregunta de investigación se centró en identificar cualquier signo de progreso en el desarrollo de la segunda lengua de los niños. Después de haber calculado la longitud de los textos y sus coeficientes de error, así como analizar los cambios globales en relación a las unidades clausales y sus correspondientes mejoras, mejoras parciales y los inconvenientes o cosas que empeoraron, los textos escritos de los niños fueron luego reexaminados cuidadosamente para explicar cualquier cambio léxico, gramatical y discursivo (ver ejemplo en tabla 15).

Con el fin de explicar aún más el potencial de desarrollo en la interlengua de los niños, decidimos centrarnos en su producción escrita en una serie de características morfosintácticas básicas (ver tabla 16). Los rasgos gramaticales seleccionados en nuestro

análisis fueron seleccionados a partir de los textos narrativos, que crearon contextos obligatorios para el uso de ciertos morfemas (como en el estudio de Muñoz (2006), especialmente los artículos, la tercera persona del presente simple, el morfema -ing y el ser auxiliar. Como resultado, estábamos interesados en informar cuando una característica apareció en los textos de los niños y con qué precisión se utilizó. Esto significó identificar la presencia inicial de cada una de estas características de L2 y luego trazar su uso a través de los cuatro textos escritos de los niños en las etapas 1 y 3 de ambos ciclos. La indicación del progreso en el desarrollo de la segunda lengua de los niños se asoció con el uso exacto de los rasgos morfosintácticos en los contextos obligatorios (Brown, 1973). Se utilizó la medida de las aportaciones en contextos obligatorios (SOC) y para calcular esto se usó la fórmula de Pica (1983, p.474). Un ejemplo del proceso se puede observar en la tabla 17.

Capítulos IV y V. Resultados, discusión y conclusión

A continuación presentamos un breve resumen de los principales resultados del estudio detallados en el capítulo IV, así como la discusión y conclusión de la investigación (capítulo V) en la que se especifica las implicaciones teóricas y pedagógicas, las limitaciones de la investigación y las posibles áreas de investigación para el futuro.

Resumen de los resultados principales

Pregunta de investigación 1:

¿Qué trayectorias realizaron los niños estudiantes de EFL al escribir, analizar el modelo y reescribir sus textos originales?

El análisis integrado de los diálogos colaborativos de los niños y sus resultados escritos condujeron a la identificación de una tipología comprensiva de 24 trayectorias de procesamiento del feedback que conectó los procesos de resolución de problemas de los estudiantes mientras escribían, comparaban su texto con un modelo y revisaban sus textos. Cada trayectoria comprende (i) un estado inicial resultante de las dificultades experimentadas durante el proceso de escritura que cubren los tipos de problemas no resueltos, resueltos y no reportados que los estudiantes pueden tener, así como un resultado no problemático; (ii) una solución, solución parcial, solución alternativa o falta de solución en el modelo; (iii) la detección, la detección parcial o la no detección de estas soluciones y (iv) un resultado escrito final resultante de los comportamientos de procesamiento previos de los alumnos, incluidas las incorporaciones o incorporaciones

parciales de características observadas en el modelo y la supresión o repetición de su producción original. Las diferentes trayectorias identificadas nos permitieron tener en cuenta secuencialmente las múltiples rutas que los aprendices podrían seguir durante el procesamiento del 'output' y del 'input'. Dado que abarcan una gama mucho más amplia de opciones y posibilidades que las actualmente contempladas en la literatura disponible, como una herramienta de investigación, las trayectorias resultaron útiles para proporcionar información sobre cómo y por qué los niños estudiantes EFL se benefician o no del uso de modelos como técnica de feedback escrito.

¿Pueden las trayectorias desplegadas por los niños ser diferenciadas en términos de su potencial de aprendizaje de la lengua?

Las trayectorias se distinguieron en términos de su potencial progresivo para mejorar el aprendizaje de idiomas tomando como criterio de definición los procesos de observación de los alumnos durante el análisis del feedback en combinación con el impacto de esa observación en la calidad de su producción escrita revisada. Esto significó ampliar la forma en que tanto la observación como la captación se han codificado en la investigación sobre los modelos hasta la fecha como fenómenos de "todo o nada" en un intento por explicar las sutilezas involucradas en el "alcance de la percepción" (Hanaoka, 2007) Y cambios no lineales en el comportamiento lingüístico (y metalingüístico) '(Sachs & Polio, 2007). Esto implicó la consideración de la notificación no reportada y parcial de los estudiantes, así como su observación de nuevas características del modelo y la identificación de incorporaciones nuevas y parciales de características lingüísticas junto con la repetición o supresión de la producción escrita. Establecer este vínculo entre el procesamiento cognitivo de los alumnos y la evidencia lingüística en sus textos escritos en términos de mejoras, mejoras parciales y desventajas nos permitió profundizar nuestra comprensión de cómo las trayectorias específicas podrían influir en el desarrollo de la segunda lengua de los niños.

Las trayectorias que abarcan más potencial de aprendizaje de la lengua que fueron utilizadas con mayor frecuencia por todos los niños en el estudio incluyeron ocasiones en que los alumnos notaron e incorporaron una solución del modelo a un problema previamente no resuelto (T12), y cuando notaron e incorporaron nuevos aspectos o alternativas (T20b). Las trayectorias más utilizadas con menor potencial de aprendizaje de la lengua incluyeron la incapacidad de los niños para incorporar la solución a un

problema sin resolver en sus textos revisados a pesar de haberlo notado (T10); La supresión de un problema no resuelto después de observar parcialmente una solución en el modelo (T17) y la supresión del contenido cuando las soluciones a un problema no reportado no estaban disponibles en el modelo (T14a).

¿El uso de las trayectorias con mayor y menor potencial de aprendizaje de la lengua es mediado por la instrucción y / o la competencia?

Se encontró que el uso de trayectorias de aprendizaje con más y menos potencial de aprendizaje de idiomas estaba mediado tanto por la instrucción como por la competencia. Los niños en el grupo de enseñanza mejoraron su uso de trayectorias con MLLP después de la instrucción y redujeron su dependencia de aquellas con LLLP. La intervención del profesor ayudó a los niños a mejorar la calidad de su percepción, como se evidencia en el aumento en su capacidad de notar con éxito y de incorporar después de la instrucción (T12), junto con la disminución en detecciones superficiales o incompletas que no condujeron a la mejora de su producción escrita (T10). Los niños que no recibieron instrucción usaron menos trayectorias potencialmente beneficiosas que sus homólogos y siguieron teniendo dificultades para incorporar rasgos observados en el modelo en su repertorio lingüístico (T10) incluso después de una segunda exposición dos meses después del ciclo inicial de escritura y feedback.

También se encontró que el dominio de la L2 de los niños influye en el uso que hacen de las trayectorias con más y menos potencial de aprendizaje de la lengua. Antes de la intervención docente, la trayectoria más utilizada por las parejas de ambos niveles de competencia fue la T10 (LLL), lo que les llevó a repetir su producción original defectuosa a pesar de notar una solución al problema en el modelo. Se observó cierta variación en el grupo de instrucción después del período de enseñanza, ya que los estudiantes de alta competencia diversificaron su uso de trayectorias potencialmente beneficiosas en mayor medida que los pares de baja competencia aumentando su percepción de nuevas características lingüísticas incluso en ausencia de problemas iniciales, encontrando ideas y contenidos alternativos en el modelo que les permitieron mejorar la calidad de su producción escrita (T20b). Tanto los estudiantes de competencia alta como baja del grupo sin instrucción usaron trayectorias de manera más similar durante los dos ciclos de escritura.

Pregunta de investigación 2:

¿Cómo están las trayectorias utilizadas por los niños relacionadas con los cambios en la aceptabilidad y comprensibilidad de su producción escrita? ¿En qué medida está esto mediado por a) la instrucción y b) por la competencia?

El análisis detallado de los cambios realizados por las parejas en su producción escrita a nivel de cláusulas y sub-cláusulas a través de los ciclos confirmó la existencia de una estrecha conexión entre los desarrollos en su producción textual y el potencial de aprendizaje de la lengua inherente a las trayectorias utilizadas para articular esos cambios. Esto significó que la mejora de la aceptabilidad y la comprensibilidad de su producción escrita se logró como consecuencia de la utilización de trayectorias con mayor potencial para fomentar el aprendizaje de la lengua.

Las transiciones hechas por los niños a unidades clausales más aceptables y comprensibles fueron mediadas tanto por la instrucción como por la competencia. Después de participar en las sesiones de instrucción, todos los niños del grupo de enseñanza aumentaron su producción de unidades de clausales de mayor nivel a través de los ciclos, mientras que el grupo no docente redujo en su mayoría sus transiciones de este tipo. El nivel de competencia de los alumnos, independientemente de su grupo, influyó en el tipo de transiciones. Esto significó que los estudiantes con menor nivel de competencia en ambos grupos produjeron más transiciones de pre-cláusulas a proto-cláusulas mientras que los niños de mayor competencia produjeron más transiciones de proto-cláusulas a cláusulas. La instrucción fue una influencia predominante en el uso que hicieron los niños de las trayectorias que les permitieron implementar estos cambios. Después del período de enseñanza, los niños del grupo de enseñanza duplicaron (HL) y triplicaron (LL) sus transiciones a unidades de clausales de mayor nivel y usaron trayectorias más beneficiosas para hacerlo. Estas trayectorias que implican un mayor potencial de aprendizaje de idiomas llevaron a los niños del grupo de enseñanza a implementar más mejoras y mejoras parciales en su escritura que el grupo no docente que redujo el número de transiciones de nivel superior y usó menos trayectorias potencialmente beneficiosas.

Pregunta de investigación 3:

¿Hay evidencia del desarrollo del segundo idioma en la producción escrita de los niños como resultado de la exposición a los textos modelo? Si es así, ¿esto está mediado por la instrucción y / o la competencia lingüística?

La evidencia del desarrollo en los textos de los niños se recopiló utilizando varios parámetros, incluyendo la longitud del texto, las tasas de error, el tipo de unidades producidas, mejoras, mejoras parciales y desventajas en su producción escrita, así como las características léxicas y discursivas de sus textos escritos y la producción secuencial de características morfosintácticas específicas en ambos ciclos de escritura.

Se encontró que la exposición al texto modelo en el primer ciclo de escritura tuvo efectos positivos a corto plazo sobre la mejora de la longitud, la precisión general y la aceptabilidad de todos los textos reescritos de los niños, aunque la relevancia de estos logros estaba relacionada con su nivel de competencia. La precisión y aceptabilidad de la producción escrita de los niños fue mediada por su competencia. Las parejas con un mayor nivel de competencia en la L2 en ambos grupos escribieron textos más exactos antes y después de la exposición al feedback que las parejas de nivel más bajo. La competencia también influyó en el tipo de unidades clausales que produjeron, mientras que las parejas de más alto nivel escribieron más proto-cláusulas y cláusulas, los textos de las parejas de baja competencia se caracterizaron por más pre-cláusulas y proto-cláusulas antes y después de la exposición al modelo. Estos cambios en las unidades clausales se tradujeron en un mayor número de mejoras y mejoras parciales que inconvenientes en los textos revisados de las parejas en ambos grupos. Un poco más de la mitad de estos cambios positivos se relacionaron con el modelo. Las mejoras en los textos revisados después de la primera ronda de feedback, se reflejaron principalmente en léxico y ortografía. El modelo no tuvo un impacto directo en el uso que los niños hicieron con respecto a morfemas gramaticales específicos, que también dependían de su competencia. Sólo las parejas de alta competencia en la L2 en ambos grupos siguieron utilizando el morfema -ing y el artículo definido con precisión en los contextos obligatorios. Las parejas de baja competencia no alcanzaron el uso exacto en ninguno de los morfemas.

En la redacción de un nuevo texto tres meses después del tratamiento de instrucción, las parejas de nivel alto y bajo en el grupo de enseñanza produjeron textos más cortos con mayores proporciones de error en comparación con sus textos reescritos en el ciclo 1. Lo mismo ocurría con los estudiantes del grupo no docente que también escribían textos más cortos y menos precisos a través de los ciclos. Todos los niños, independientemente del grupo y el nivel de competencia, escribieron menor número de unidades clausales y menos aceptables que en el primer ciclo de escritura. Las pérdidas en términos de la calidad de los textos de los niños fueron menos pronunciadas en los niños de alta competencia del grupo docente. Estas parejas eliminaron el léxico en L1 de sus narraciones e introdujeron algunos marcadores temporales del discurso. También siguieron usando el morfema -ing y el artículo definido con precisión y mantuvieron una tendencia al alza con el artículo indefinido, pero el uso del "be copula" fue incorrecto. Las parejas de baja competencia en el grupo de enseñanza lucharon con la ortografía de palabras clave, pero siguieron progresando con el morfema de -ing, y alguna ligera mejora con el artículo definido. Este no fue el caso del artículo indefinido, que utilizaron incorrectamente en contextos obligatorios. En el grupo sin instrucción, ambos conjuntos de parejas también se basaron en la L1 y en aproximaciones de la L2. Sólo los niños de alta competencia mantuvieron un uso exacto del morfema -ing. Las puntuaciones de precisión de ambos conjuntos de parejas en los restantes aspectos gramaticales, al igual que las parejas de bajo nivel en el grupo de enseñanza, fueron bajas. La instrucción no tuvo un impacto notable en la longitud de los textos de los niños, los índices de error o la producción de unidades clausales al escribir un nuevo texto. Los estudiantes de nivel alto en el grupo de enseñanza consolidaron el uso de dos de los seis morfemas y mejoraron otro. Los estudiantes de nivel bajo mejoraron uno y mostraron ligera mejoría en otro, sin llegar a la precisión.

Sin embargo, la combinación de las sesiones de instrucción con la exposición al modelo parecía ayudar a todos los niños del grupo docente a escribir textos revisados más largos, más precisos y aceptables que sus homólogos del grupo sin instrucción, cuyos textos eran más cortos e inferiores tanto en la precisión como en la aceptabilidad. Las parejas de nivel inferior en el grupo de enseñanza igualaron la proporción de errores de las parejas de alto nivel en el grupo sin instrucción. Ambas parejas de nivel de competencia, en el grupo de enseñanza también avanzaron en la producción de unidades clausales de nivel superior en comparación con el grupo sin instrucción que continuó utilizando los mismos tipos de

unidades clausales que sus textos originales. La superioridad del grupo de instrucción en cuanto a la exactitud y aceptabilidad de su producción escrita fue corroborada por las mejoras y mejoras parciales a su producción escrita, la mayoría de las cuales coincidían con el modelo. Esto sugiere que la instrucción resultó útil para ayudar a los niños a asignar su atención de manera más estratégica durante el procesamiento de feedback, mejorando así la calidad de su producción escrita. Los efectos a largo plazo de la instrucción sobre el procesamiento del feedback se revelaron en el uso exacto de cuatro de los seis morfemas gramaticales por los niños de alta competencia en el grupo de enseñanza. Consolidaron su uso del morfema -ing, mejoraron aún más el sistema de artículos y ahora usaban pronombres personales con precisión por primera vez en todos sus textos anteriores. Las mejoras en otros aspectos gramaticales incluyendo los adjetivos posesivos y el "be copula", así como a nivel léxico y los dispositivos cohesivos eran también evidentes. Sólo la tercera persona -s y el "be auxiliar" continuaron con tasas de exactitud más bajas. Las parejas de baja competencia corrigieron errores léxicos, consolidaron su uso del morfema -ing, continuaron progresando en su uso del artículo definido y mostraron un uso emergente del artículo indefinido, que habían utilizado incorrectamente en todos los contextos obligatorios anteriores. En el grupo sin instrucción, con la excepción del morfema -ing y una muy ligera mejora en el uso de los pronombres, las puntuaciones de precisión de los niños de alta competencia fueron similares o ligeramente menores en todos los demás morfemas en comparación con su producción escrita previa. Las mejoras se limitaron al léxico, que incorporaron a partir del modelo. Esta tendencia fue la misma para los niños de baja competencia que mantuvieron puntuaciones variables a lo largo del tiempo sin llegar a un uso preciso en cualquiera de los morfemas gramaticales.

Discusión de los hallazgos

Trayectorias de procesamiento de la escritura y el feedback

Los resultados de esta tesis doctoral contribuyen a la expansión de la teoría actual y la investigación sobre el potencial de aprendizaje lingüístico del feedback escrito. Hasta la fecha se sabe que el feedback escrito tiene el potencial, bajo ciertas condiciones, de ayudar a los estudiantes a usar la L2 con mayor precisión y desarrollar sus conocimientos de la L2 (Bitchener & Storch, 2016). Sin embargo, como señalan estos autores, "se sabe menos empíricamente acerca de por qué los estudiantes son capaces de progresar (o no progresar) de una etapa de procesamiento a otra y cómo los factores individuales y

contextuales pueden moderar el procesamiento del feedback escrito”. La investigación presentada aquí representa un intento de responder a esta brecha en el campo al reunir la compleja interacción de los factores internos y externos del alumno a través de la identificación de las trayectorias que los estudiantes siguen a lo largo del continuo de la escritura, procesamiento del feedback y reescritura mediados por la instrucción y el nivel de competencia en L2.

Las trayectorias utilizadas por los estudiantes a lo largo de los dos ciclos de varias etapas ofrecen información valiosa sobre por qué y en qué punto algunos estudiantes aprenden EFL con éxito mientras que otros no. En el mejor escenario posible, tal como se evidencia en trayectorias con mayor potencial de aprendizaje de la lengua, habiendo notado un problema en su producción escrita, los alumnos notan una solución en el modelo, procesan esa solución semántica y sintácticamente, utilizan este conocimiento para crear o probar una nueva hipótesis, integrar el conocimiento en su sistema de interlengua en desarrollo y utilizan sus conocimientos adquiridos con precisión en la nueva producción escrita. Hacer exactamente esto es, de hecho, el objetivo final de la feedback escrito. Sin embargo, a lo largo del camino, los estudiantes pueden desviarse de esta ruta ideal cuando, por ejemplo, en la etapa inicial de escritura no reconocen un agujero o una brecha en su producción; Entonces, durante la etapa de análisis del feedback, fallan en notar una solución en el modelo, solo notan parcialmente una solución o notan una solución sin tener suficiente comprensión y conocimiento para convertir el objetivo de su detección en material para adquisición. Cualquier combinación de estas digresiones de la ruta de procesamiento principal puede cortocircuitar el proceso de adquisición, cuyo resultado se hace evidente en la repetición de la producción defectuosa, la supresión del contenido como resultado de oportunidades perdidas o la incorporación parcial en su producción escrita futura. Estas digresiones están representadas por trayectorias con menor potencial de aprendizaje de la lengua. Las trayectorias que los estudiantes pueden seguir se complican aún más por la interacción dinámica entre los factores internos y externos, incluyendo el tipo de feedback y su familiaridad con él, los niveles de competencia de los alumnos y el compromiso afectivo con la tarea.

Las investigaciones anteriores sobre feedback escrito se han centrado en gran medida en los efectos a corto plazo de una sola intervención. Sin embargo, el hecho de que los alumnos realicen tareas de escritura y feedback en varias ocasiones nos ha permitido ver

más allá de una toma estática del lenguaje L2 de los aprendices para apreciar mejor cómo se desarrolla el lenguaje con el tiempo.

El impacto de los modelos sobre el rendimiento escrito de los niños y el desarrollo del segundo idioma

Las ganancias identificadas en la exactitud y aceptabilidad de la producción escrita de los niños después de la exposición a dos textos modelo, junto con las características lingüísticas y discursivas de su producción escrita, ofrecen evidencia de que los modelos pueden ayudar a los niños a mejorar su producción escrita y desarrollar su conocimiento de la segunda lengua en el proceso. El análisis cualitativo de los textos escritos de los niños confirmó que los modelos habían contribuido a las mejoras en su producción escrita de varias maneras. Esto incluía permitir a los niños mejorar su producción léxica llenando agujeros y vacíos en sus conocimientos de L2 (Izumi, 2013; Swain, 1998) y, en el caso de los estudiantes de alto nivel especialmente, incorporando elementos léxicos adicionales que habían notado en los modelos o alternativas a su producción ya aceptable. Los estudiantes de baja competencia, en particular, mejoraron la ortografía de palabras de contenido básico y las palabras suprimidas o reemplazadas que habían escrito originalmente en L1 con el término L2 correspondiente. También se observaron mejoras en los aspectos formales de los textos. Los tipos de palabras gramaticales, incluidos los artículos definidos e indefinidos, los pronombres personales y los adjetivos posesivos, se utilizaron con mayor precisión en los textos revisados de parejas de nivel alto en ambos grupos. Los alumnos también mejoraron su versión revisada integrando trozos de lenguaje tomados del modelo que les permitió utilizar la conjugación del verbo 'To be' y algunas preposiciones de lugar con mayor precisión. Evidencia de mejora lingüística surgió de manera similar en el uso mejorado, aunque inconsistente, de la tercera persona en el presente en formas verbales familiares y menos familiares en las parejas de alta competencia en el grupo de enseñanza. Todas las parejas también incorporaron marcadores temporales en su producción revisada, especialmente en el segundo ciclo de escritura, y particularmente los niños en el grupo de enseñanza.

Teniendo en cuenta la edad y el nivel generalmente bajo de los participantes en este estudio, y la necesidad que hemos reiterado de ampliar el estrecho enfoque de la investigación sobre feedback escrito en la presentación de informes exclusivamente de resultados de aprendizaje positivos, una importante contribución de esta tesis ha sido

examinar en detalle los logros parciales obtenidos por los estudiantes de EFL en un intento de dar cuenta de pequeños signos de progreso en el desarrollo de su conocimiento de la L2.

Desarrollo léxico

Al interpretar los hallazgos, la mejora en el léxico de los niños no es una sorpresa, ya que coincide con la investigación realizada hasta la fecha sobre modelos que ha enfatizado que la percepción y absorción de los estudiantes por los modelos es predominantemente léxica (Cánovas et al, 2015, Coyle y Roca de Larios, 2014, Hanaoka, 2006a, 2006b, 2007, Hanaoka & Izumi, 2012, y Martínez Esteban y Roca de Larios, 2010, Yang y Zhang, 2010). Esto puede estar relacionado con el efecto de "predisposición" de los niños durante la etapa de escritura original que les llevó a buscar soluciones en los modelos a sus problemas principalmente lingüísticos, dada su limitada habilidad en la L2 (Hanaoka, 2007).

Desarrollo gramatical

La evidencia del progreso en el desarrollo del conocimiento lingüístico de los niños también surgió en su producción escrita. A pesar del uso inconsistente de las formas verbales del tiempo presente, se observó una pequeña mejora en el uso del morfema de la tercera persona en los textos revisados de las parejas de alta competencia en el grupo de enseñanza, especialmente después de la exposición al modelo. Esto es interesante, ya que este morfema en particular es uno de los últimos que se han adquirido de acuerdo con los estudios de orden natural tanto en entornos naturales como educacionales (Muñoz, 2006; Pica, 1983). Bastarrechea y García Mayo (2014) sugieren que la tercera persona puede ser difícil de adquirir porque carece de salida perceptual y es semánticamente redundante (Van Patten, 1996, 2007). En este sentido, la exposición focalizada a ciertos rasgos durante la instrucción formal puede haber acelerado el proceso de aprendizaje de los niños mejorando la percepción y la comprensión de los rasgos lingüísticos, que fueron capaces de integrar en la producción escrita posterior. Aumentar la notoriedad de determinadas conexiones forma-función parece estimular el procesamiento de entrada y conducir a ganancias de aprendizaje (Skehan, 1998).

El efecto mediador de la competencia

Comprender y utilizar el lenguaje proporcionado en los textos modelo parece ser decisivo para impulsar el proceso de aprendizaje. Sin embargo, como hemos visto, no todos los niños fueron capaces de hacerlo con éxito. La versión escrita revisada de muchos de las parejas de baja competencia del estudio contenía una gran proporción de frases erróneas que eran idénticas o prácticamente idénticas a sus textos originales. Al reescribir sus textos, estas parejas parecían adherirse más a su agenda narrativa original que al modelo y, por lo tanto, seguían recurriendo a sus propios recursos lingüísticos deficientes en lugar del contenido y el lenguaje contenidos en el feedback, lo que les resultaba más difícil. Su fracaso para aprovechar plenamente el modelo parecía ser el resultado de un enfoque ineficaz para procesar el modelo, en lugar de una consecuencia del lenguaje demasiado complejo de éste. El comportamiento improductivo durante la tarea de retroalimentación fue evidente en los niños de ambos grupos en el primer ciclo de escritura.

El papel mediador de la instrucción

En general, existe un consenso entre los investigadores de que, para avanzar en su conocimiento de la L2, se requiere un mayor conocimiento y una comprensión de las brechas entre la L2 y la interlengua de los alumnos (Qi y Lapkin, 2001). Ayudar a los estudiantes a comprender mejor la naturaleza de las diferencias que observan entre su propia escritura y la retroalimentación parecería ser primordial. En este estudio, la instrucción desempeñó un papel crucial en hacer precisamente eso. Los beneficios de las sesiones de instrucción aparecieron de varias maneras: (i) un aumento en el uso de trayectorias con mayor potencial de aprendizaje de la lengua por parte de los niños en el grupo de enseñanza, (ii) mejoras en la precisión, aceptabilidad y comprensión de su producción escrita y (iii) en el desarrollo de su interlengua. Entonces, en línea con la teoría cognitiva y la investigación que defiende un papel clave de la instrucción centrada en la forma en el aprendizaje de la segunda lengua, y con la teoría sociocultural y la investigación que ve el lenguaje como un medio para fomentar la conciencia, nuestro estudio apunta claramente a la necesidad de introducir actividades de concientización utilizando textos modelo y otras formas más explícitas de feedback para ayudar a los alumnos más jóvenes y menos competentes a desarrollar su conciencia metalingüística (Sachs y Polio, 2007).

El compromiso afectivo de los niños con la tarea

Aparte de los niveles de competencia de los estudiantes y la instrucción, los resultados del presente estudio son indudablemente influenciados por una serie de factores adicionales que deben tenerse en cuenta al considerar el procesamiento del feedback de los niños. Uno de los más cruciales se engloba en la idea de compromiso. La noción de compromiso del alumno con el feedback ha recibido una creciente atención por parte de los investigadores que han analizado las respuestas cognitivas, conductuales y afectivas mostradas por los estudiantes hacia diferentes tipos de feedback (Han y Hyland, 2015).

El compromiso de los niños con las tareas de escritura y retroalimentación también parecía ser una influencia determinante, ya que su desempeño fue indudablemente influenciado por factores afectivos. Esto fue visible en una serie de formas, incluyendo el menor tiempo dedicado a la tarea, una reducción en la longitud de su producción escrita en comparación con el primer ciclo y la creciente brevedad de sus diálogos colaborativos. Con el paso del tiempo, las discusiones de todas las parejas tendieron a ser más cortas y se centraron principalmente en completar las tareas con la mayor rapidez y con el menor esfuerzo posible. Se sabe que la motivación para el aprendizaje del segundo idioma con los estudiantes más jóvenes se determina más por la práctica en el aula que por un deseo intrínseco de aprender el idioma (Nagy, 2009). Dado que la motivación también es dinámica y está sujeta a cambios constantes (Dörnyei, 2001), la responsabilidad es que el profesor realice tareas que los niños perciben como relevantes e interesantes. En el caso de la escritura, esto puede representar un auténtico reto, ya que las tareas de escritura no gozan de la misma popularidad entre los niños que las tareas de producción oral que se perciben como menos exigentes (Nikolov, 2009; Shak & Gardner, 2008).

Implicaciones pedagógicas

El potencial de aprendizaje lingüístico de los modelos

Los resultados de este estudio ilustran la necesidad de que los estudiantes de EFL tengan la oportunidad de escribir en la L2 y puedan recibir y procesar feedback sobre su escritura con el fin de avanzar en su desarrollo de la L2. Como norma general, muchos profesores en educación primaria se adhieren a los libros de texto publicados que, bajo el disfraz de la enseñanza comunicativa de las lenguas, involucran a los niños en ejercicios de lectura, vocabulario y gramática. La escritura generalmente se deja fuera de esta ecuación. Por lo tanto, es importante que los maestros sean más conscientes de los beneficios que se

obtienen de la práctica de la escritura (Manchón, 2009; 2011b) y de las implicaciones teóricas de escribir para aprender. En este sentido, los niños necesitan oportunidades para escribir como parte regular de sus lecciones EFL para que puedan probar su conocimiento en desarrollo de la L2.

El uso de modelos como parte de una tarea de escritura con varias etapas resultó útil para ayudar a los alumnos a ampliar sus repertorios léxicos, integrar nuevos contenidos en sus textos y mejorar la estructura cohesiva de sus textos escritos. Sin embargo, al mismo tiempo, los modelos no facilitaron la atención de los estudiantes a la morfología y la sintaxis tanto como otras técnicas de feedback han demostrado hacer (Coyle & Roca de Larios, 2014). Esto se debió en gran medida a la compleja naturaleza de resolución de problemas de las tareas de escritura y procesamiento del feedback para los niños, así como a sus niveles relativamente bajos de competencia en L2. Mientras escribían sus narraciones, la mayoría de los niños experimentaron dificultades para codificar sus ideas de forma léxica y gramatical y lucharon por acceder a sus representaciones semánticas y sintácticas L2 almacenadas. Esto quedó claro en sus diálogos colaborativos en los que su falta de experiencia en la escritura y en el análisis del feedback se manifestó en las trayectorias ineficaces que siguieron. Durante el análisis del modelo, la observación de los niños fue en gran medida superficial. Los modelos tendían a ser utilizados como imágenes especulares de la producción propia de los alumnos, de modo que el análisis se limitaba a las búsquedas de correspondencia de una a una y de una frase a otra para buscar soluciones a medida a problemas o diferencias que habían identificado. La discusión de posibles razones para esas diferencias era prácticamente inexistente.

Fue sólo después del tratamiento de instrucción y una segunda oportunidad de participar en la tarea de escritura multi-etapa cuando los signos de desarrollo del segundo idioma comenzaron a surgir en los niños que habían participado en la intervención docente. Durante el período de instrucción, los niños tuvieron múltiples oportunidades para practicar la escritura de textos narrativos cortos, leer modelos de dichos textos y compararlos con los resultados escritos de otros miembros de la clase. Esta actividad se realizó colectivamente bajo la guía del profesor que suscitó sugerencias de los niños, dirigió su percepción hacia elementos clave de los modelos y luego llenó los "agujeros" en su conocimiento metalingüístico articulando las razones subyacentes a los errores o diferencias que habían identificado.

Las implicaciones de esto son claras. Sin el apoyo adicional y el andamiaje del maestro sobre cómo procesar textos modelo, es probable que el impacto del feedback sobre el desarrollo del segundo idioma de los niños sea limitado. Los niños necesitan aprender a procesar los modelos, tanto procedimental como lingüísticamente. Necesitan mostrarles qué buscar, cómo hacerlo y, a continuación, dotarlos del conocimiento metalingüístico para explicar lo que encuentran. Más que el propio texto del modelo, es nuestro argumento que este valioso y continuo proceso de sensibilizar a los niños sobre los aspectos morfosintácticos del segundo idioma y la estructura cohesiva de los textos, es lo que llevó a los niños del grupo de instrucción a notar estas características en el modelo. La instrucción, por lo tanto, que tiene como objetivo preparar a los estudiantes para la escritura y el procesamiento del feedback debe ser una preocupación principal para los profesores de EFL.

Sugerencias prácticas al usar modelos con niños estudiantes de EFL

Tradicionalmente, los modelos se dieron a los estudiantes de segundo idioma antes de participar en la escritura como un ejemplo del tipo de textos que se espera que produjeran. Sin embargo, cuando se muestra un modelo antes de escribir, los estudiantes a menudo lo copian en lugar de tratar de crear su propio texto, no probando así sus hipótesis sobre la L2. A pesar de ello, los textos modelo siguen siendo utilizados de esta manera en muchos contextos de aprendizaje y se incluyen en algunos libros de texto como muestras normalizadas de escritura. Esto no es necesariamente una mala cosa si lo que queremos es familiarizar a los estudiantes con diferentes géneros y estructuras de texto. Sin embargo, no debe ser la única manera en que los modelos sean utilizados.

El uso de modelos después de que los alumnos hayan producido sus propios textos como parte de una tarea de comparación del feedback resulta útil para ayudar a los alumnos a ampliar sus repertorios lingüísticos, integrar nuevos contenidos en sus textos y mejorar la estructura general de su texto. Sin embargo, al mismo tiempo, los modelos no facilitaron la atención de los estudiantes a la morfología y la sintaxis tanto como otras técnicas de feedback (Coyle & Roca de Larios, 2014). Parece sensato, por lo tanto, que los maestros deberían alternar modelos con otras formas de feedback directo e indirecto, incluida la corrección de errores, la reformulación o los comentarios metalingüísticos, lo que facilitaría la detección de soluciones a problemas gramaticales haciéndolos más perceptualmente salientes. Usar un modelo es una forma de feedback pero no es la única

forma. Tomar conciencia de las ventajas que ofrecen las diferentes técnicas de feedback y saber seleccionar técnicas adecuadas para diferentes propósitos de aprendizaje de idiomas debe ser una parte central de la agenda de enseñanza de los profesores de EFL.

Una valiosa lección que se puede extraer de esta investigación es la importancia de adaptar los textos modelo a los niveles actuales de desarrollo de los niños. Hemos adoptado originalmente la medida de incluir dos modelos, siguiendo a Hanaoka (2007), para evitar que los niños copien de un solo texto. Sin embargo, dado que los alumnos demostraron ser incapaces de hacer frente a las demandas atencionales y lingüísticas de comparar su propia producción con dos modelos muy similares y tendieron a centrarse en uno solo, después del primer ciclo de escritura, se descartó el uso de dos modelos. La decisión de utilizar sólo un modelo a partir de entonces resultó ser más exitosa, pero la idea de preparar dos o tres modelos no para toda la clase, sino para atender los diferentes niveles de competencia dentro de las clases de habilidades mixtas parecería una opción valiosa para explorar. En la práctica, esto significaría elaborar varios modelos con diferentes niveles de dificultad y, por lo tanto, diferenciar más entre los niños de mayor y menor nivel de competencia. Esto aseguraría que los modelos escritos por el maestro corresponderían más uniformemente a la variedad de niveles y diversidad que caracterizan las aulas en la educación primaria y alentar a los niños a desarrollarse dentro de su propio rango de habilidades.

Aumento de la motivación para escribir

En relación con el momento de la escritura y las actividades de feedback, hemos visto que el interés de los niños puede comenzar a disminuir cuando perciben que las tareas de escritura son demasiado complejas (Simard et al, 2015) o cuando no aprecian su valor de aprendizaje. A este respecto, pueden hacerse varias consideraciones prácticas. En primer lugar, la escritura y feedback relacionado pueden beneficiarse de la integración con las actividades de lectura para que los niños desarrollen la comprensión, el reconocimiento de palabras, la ortografía, la morfología y la estructura de texto de la lectura y luego escribir textos adecuados incluyendo historias e información factual cuando sea posible de lo que están estudiando en inglés (Rose, 2016). De esta manera, los modelos podrían ser utilizados selectivamente en el aula para proporcionar feedback sobre ciertos tipos de texto incluyendo descripciones de imágenes, informes, instrucciones, explicaciones, etc. Esto podría ser igualmente útil en las aulas CLIL donde a menudo se requiere que los

estudiantes produzcan textos científicos. Sin embargo, la brecha potencialmente mayor entre un texto modelo y la escritura personalizada de los estudiantes significa que probablemente no serían tan eficaces con tareas más abiertas como la escritura de revistas, narraciones personales o escritura creativa (Hanaoka & Izumi, 2012).

También se podría proporcionar ayuda más específica durante las tareas de escritura, permitiendo a los niños el acceso a diccionarios bilingües o preferiblemente monolingües. Esto podría aliviar las dificultades encontradas por los niños cuyo déficit de conocimiento léxico los obliga a recurrir a la L1 cuando son incapaces de encontrar las palabras L2 que necesitan para expresar sus significados. Por último, en los últimos años, el uso de la comunicación mediada por ordenador (CMC) ha tenido un fuerte impacto en las aulas de segunda lengua. CMC escrito, especialmente, implica una serie de ventajas importantes que pueden aumentar la motivación de los estudiantes a escribir. Por ejemplo, a través de la tecnología, los niños pueden comenzar a comunicarse con hablantes de otras lenguas ya participar en intercambios interaccionales incluso en contextos de aprendizaje de lenguas extranjeras.

Limitaciones del presente estudio

Todas las investigaciones, aunque bien planificadas y llevadas a cabo, tienen sus limitaciones y el estudio presentado aquí no es una excepción. Somos conscientes de que la muestra de participantes en el estudio es pequeña y que un mayor número de parejas de diferentes niveles de competencia asegurarían resultados más representativos. Pero se trataba principalmente de un estudio en el aula de una escuela real, con niños reales y con un verdadero maestro y, como tal, limitado en cuanto al número de alumnos que podían participar. Aun así, a pesar de tener sólo ocho parejas, los resultados del estudio son quizás más pedagógicamente relevantes para los maestros que otros estudios de laboratorio más controlados de poblaciones más grandes. Sin embargo, la realización de la investigación en un entorno escolar también significó que la realidad a veces se interponía en el camino. Era imposible registrar los diálogos de los niños simultáneamente en clase debido a los niveles de ruido, por lo que las parejas tenían que realizar las diferentes etapas de la tarea por separado con el profesor, mientras que el resto de la clase se dedicó a otro trabajo. Bajo circunstancias normales esto podría ser evitado, ya que los niños no tendrían que ser registrados durante el desempeño de la tarea. Por otra parte, el hecho de que varios de los participantes hubieran terminado su etapa escolar en

el momento de la segunda recolección de datos al principio del siguiente año escolar parecía haber impactado negativamente en su motivación para realizar la tarea con el mismo grado de entusiasmo. Esto podría haber sido confirmado si el estudio hubiera incluido datos de entrevistas para descubrir la disposición afectiva de los estudiantes hacia las tareas, así como sus creencias y metas en diferentes momentos en el tiempo. En retrospectiva, el estudio podría haberse llevado a cabo a lo largo del mismo curso académico, pero las dudas sobre la influencia de las clases EFL regulares sobre el progreso en la escritura y el desarrollo del conocimiento de la segunda lengua siempre permanecerían.

Metodológicamente, el uso del diálogo colaborativo como técnica de recolección de datos fue ventajoso, ya que nos permitió conocer mejor el enfoque de la atención de los alumnos. Sin embargo, también es cierto que las parejas a menudo no informaron explícitamente lo que habían notado en el feedback, lo que sugiere que sus discusiones deberían complementarse con medidas adicionales como la reflexión post-tarea sobre el feedback utilizando métodos complementarios de datos como el recuerdo estimulado (Adams, 2003) o cuestionarios (Simard, Guénette & Bergeron, 2015).

Sugerencias para futuras investigaciones

El carácter exploratorio de esta tesis doctoral abre una variedad de vías para futuras investigaciones. En primer lugar, con respecto a las trayectorias mismas. Parece apropiado ahora afinar y desarrollar la tipología examinando más de cerca las trayectorias utilizadas por diferentes poblaciones, incluyendo adultos y estudiantes de secundaria, tanto en los entornos educativos como en los naturales. Particularmente interesante en nuestro contexto educativo sería la comparación de las trayectorias utilizadas por los niños en edad escolar en los programas convencionales y CLIL. Esto podría ampliarse a otras variables tales como la escritura individual y colaborativa y diferentes tipos de feedback, incluyendo reformulaciones, corrección de errores, símbolos de edición, etc. Las investigaciones realizadas con poblaciones más grandes también permitirían realizar pruebas estadísticas sobre los datos para comprobar posibles correlaciones y significación en el despliegue de trayectorias específicas en relación con diferentes resultados de aprendizaje.

La investigación futura también podría tomar una mirada más profunda en la calidad de la observación de los estudiantes en trayectorias con más y menos potencial de aprendizaje de la lengua. Esto implicaría examinar más de cerca las estrategias de detección utilizadas por los estudiantes para identificar cómo procesan diferentes tipos de feedback y para documentar cualquier cambio en el uso de su estrategia con el tiempo. Dado el impacto de la instrucción sobre el uso del feedback por parte de los estudiantes, el proceso de instrucción en sí podría ser examinado para documentar ejemplos de lenguaje colectivo en clase y el crecimiento del conocimiento de los estudiantes a lo largo del tiempo.

Conclusión

En línea con la investigación empírica que ha documentado el impacto positivo de los modelos como una técnica de feedback escrito en una variedad de contextos de aprendizaje (Cánovas y cols., 2015, Hanaoka, 2006a, 2006b, 2007). Los hallazgos de esta tesis doctoral contribuyen de diversas maneras al conjunto de conocimientos acumulados hasta la fecha sobre el papel de los textos modelo en el desarrollo del segundo idioma. En primer lugar, el presente estudio es único en la ampliación de la base de datos sobre la investigación en modelos como fuente de feedback por desplazar el foco de atención de la cuantificación de los episodios lingüísticos observados y retenidos por los estudiantes a considerar la gama completa de tipos de problemas, observación parcial, y diversos resultados que los estudiantes de idiomas pueden experimentar secuencialmente durante una escritura, análisis del feedback y una tarea de revisión. Nuestro análisis integral e integrado de procesos y productos se ha cristalizado en la identificación de múltiples trayectorias que los alumnos siguen diferencialmente durante el proceso de escritura y feedback y cuyo potencial intrínseco de aprendizaje de la lengua afecta a la calidad de su producción escrita. En segundo lugar, el carácter longitudinal y cualitativo de nuestra investigación, llevada a cabo durante un período de cinco meses con un grupo de enseñanza y un grupo sin enseñanza, añade una nueva dimensión a los estudios previos, la mayoría de los cuales se han realizado en un menor tiempo y sin un grupo de control frente al cual comparar los resultados. Por lo tanto, este estudio ofrece nuevas perspectivas sobre el impacto de la instrucción en el procesamiento del feedback de los niños, la precisión escrita y el desarrollo de conocimientos a lo largo de un período de tiempo más largo. Como tal, el estudio contribuye a hacer avanzar el programa de investigación sobre el feedback para la adquisición. Por último, los resultados obtenidos

con jóvenes estudiantes de lenguas extranjeras con bajos niveles de competencia en un aula complementan los de la investigación disponible, demostrando información sobre el papel de la instrucción en la promoción del procesamiento del feedback, un fenómeno que muchos investigadores habían pedido pero hasta ahora no se había aplicado.