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EFL child peer interaction: Measuring the effect of time, proficiency pairing and language of interaction

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Abstract

Child peer interaction in English as a foreign language (EFL) settings has recently received increasing attention with respect to age, instruction type and first language (L1) use, but longitudinal studies remain scarce and the effects of proficiency pairing and language choice on meaning negotiation strategies are still rather unexplored. Within a primary school EFL context, this paper aims to explore the amount and types of meaning negotiation, and the effects of time, proficiency pairing and language choice in a spot-the-differences task. Forty Catalan/Spanish bilingual children were paired into mixed and matched proficiency dyads, and their oral production was analyzed twice over the course of two years (i.e., 9-10 and 11-12 years old). The analysis included conversational adjustments, self- and other-repetition and positive and negative feedback in the learners' L1 and second language (L2). Our data show that the amount of meaning negotiation is low, although L2 meaning negotiation is higher than L1 meaning negotiation, and all the strategies are present in the data except for comprehension checks. Time effects are hardly observed. However, proficiency pairing and language effects are more generally found, whereby mixed proficiency dyads tend to negotiate for meaning more than matched dyads and meaning negotiation instances are more frequent in the L2 than in the L1.

Keywords: EFL child peer interaction; time; proficiency pairing; language

1. Introduction

Although there is currently little doubt that interactional processes push the development of learners' second or foreign language (L2) both in symmetrical (i.e., learner-learner or peer) and in asymmetrical (i.e., native speaker/teacher-learner) interaction (Gass & Mackey, 2006; Long, 1996; Mackey, 2007; Philp, Adams, & Iwashita, 2014; Sato & Ballinger, 2016, among others), some may question the extent to which these processes are fostered in foreign language (FL) peer interaction. In FL contexts, peer interaction has not been found to be a lacking version of interaction with native or proficient speakers (Philp & Tognini, 2009). FL learners can provide each other with comprehensible L2 input and grammatically accurate feedback, and can produce modified output in response to feedback, just as efficiently as in native speaker-learner interaction, albeit not with the same frequency (García Mayo & Pica, 2000). FL learners are not limited in negotiating for meaning in communicative tasks (Gass, Mackey, & Ross-Feldman, 2005) and are capable of reflecting on the adequacy of L2 forms, correctly solving language-related episodes and assisting each other in producing L2 utterances beyond what they would be individually able to produce (Alegría de la Colina & García Mayo, 2007; Ohta, 2000, 2001). FL peer interaction has also been shown to bring about gains in learners' L2 competence, as manifested in their enhanced awareness of certain L2 forms (Kim, 2013; Kuiken & Vedder, 2002) or, even, in the uptake of grammatical structures and pragmatic strategies at an individual level (Alcón, 2002; McDonough, 2004). Nonetheless, at low proficiency levels, negotiation of meaning and reflection on L2 form in FL peer interaction often take place in the learners' first language (L1), which plays an instrumental role in task completion (Alegría de la Colina & García Mayo, 2009; DiCamilla & Antón, 2012; Vraciu & Pladevall-Ballester, 2020).

The quantity and quality of FL peer interaction have been found to depend on a number of mediating factors such as task type and proficiency level. Tasks which require an information exchange (e.g., picture differences, map-based tasks) generate more negotiation of meaning than tasks where such an exchange is optional (Gass et al., 2005), whereas form-focused tasks that involve some kind of written input (e.g., text reconstruction) generate more reflection on L2 forms than form-focused tasks which lack this type of input (e.g., dictogloss; García Mayo, 2002). With regard to proficiency levels in dyads, whether learners interact in same or mixed proficiency dyads does not seem to affect opportunities for modified output or the proportion of interactional moves. However, proficiency does seem to affect the actual production of modified output. Low proficiency learners produce more modified output when they work with better peers than when they work with matched proficiency peers, whereas

high proficiency learners modify their output more in same rather than mixed proficiency dyads (Iwashita, 2001).

More recently, learners' age has also been shown to affect the amount and the type of meaning negotiation in FL peer interaction, with 10-year-old children negotiating less and less effectively than adult learners (Pinter, 2006). Interactional research has uncovered the specificity of peer exchanges among young learners and the need to consider children as an idiosyncratic L2 learner population on account of their cognitive, social and linguistic developmental traits (Muñoz, 2007). Older children (aged 7-11 years, the age range targeted in this study) differ from very young learners in that they show an increased awareness of turn-taking, others' viewpoints, and the pragmatics of speech acts (Philp, Oliver, & Mackey, 2008). This awareness enables them to enter into horizontal relations with their peers, much more geared towards reciprocity than adult-child interactions (Hartup, 1989). This mutuality, together with a consolidating metalinguistic and analytic capacity in the L2 at this age (Pinter, 2017), could be propitious ground for key interactional processes such as negotiation of meaning or provision of corrective feedback. Therefore, charting these emerging interactional skills is fundamental for a better understanding of child L2 development, even more so when it is done by means of longitudinal data (García Mayo, 2018).

Child peer interaction has been extensively researched in English as a second language (ESL) contexts, where the empirical evidence conclusively supports the claim that young learners can negotiate for meaning in English L2, provide each other with corrective feedback and incorporate this feedback into their output, just like adult English L2 learners (Mackey, Kanganas, & Oliver; 2007; Oliver, 1998, 2000, 2002, among others). Yet, child FL contexts are less widely explored and in need of further investigation. In the present study, we aim to explore the frequency and patterns of negotiation of meaning in task-based interaction by primary school children learning English as a foreign language (EFL) in a minimal exposure context. To set the background for our study, we will review the findings regarding child peer interaction and negotiation of meaning in EFL contexts.

2. Child peer interaction in EFL contexts

The evidence regarding child peer interaction in EFL is scarce in comparison with that from ESL settings. This is striking given the ever earlier start of EFL programs (Collins & Muñoz, 2016) and the specificity of this language learning context, namely the limited exposure to the target language outside the classroom and the lack of opportunities for interaction with native speakers. The little evidence available seems to indicate that, in line with what happens in ESL contexts, children engaged in task-based peer interaction are capable of negotiating for meaning

in EFL. In a study of the interactional strategies employed by 10 dyads of 10-11 year-old Hungarian L1 children and 5 dyads of Hungarian L1 adults, matched for proficiency level and carrying out a spot-the-differences task, Pinter (2006) found that children were able to signal their lack of understanding and ask for clarification, but resorted to these strategies less than the adult participants. They also co-constructed utterances by pooling together their lexical resources. An age effect was visible in the task outcome, with young learners not finding as many differences as the adult learners and adopting a much looser approach to handling referential conflicts, possibly on account of their cognitive immaturity.

In a subsequent qualitative exploration of child peer interaction in EFL, Pinter (2007) identified task familiarity, achieved by means of task repetition, as a mediating factor for peer assistance and engagement in a two-way spot-the-differences task performed by two Hungarian L1 learners of EFL aged 10. By the last repetition of the task, the learners not only helped each other more systematically with unknown lexical items but they also paid more attention to the formal accuracy of their production. With increasing task familiarity, the children concentrated more on each other's messages and attempted to work out ambiguities and misunderstandings as they occurred. Nevertheless, a quantitative exploration of the effect of task repetition on EFL children's negotiation of meaning carried out by García Mayo and Imaz Agirre (2016) with Spanish L1 children aged 8-9 and 10-11 did not reveal any statistically significant differences between the amount of interactional strategies employed by the children at two data collection times, two months apart. In line with Pinter's (2007) findings, task repetition did have an impact on the pair dynamics, prompting participants to work more collaboratively, especially the younger children in the study.

In EFL settings, the type of instruction has also been found to be a mediating factor in child peer interaction. García Mayo and Lázaro-Ibarrola (2015) analyzed the meaning negotiation strategies used by 10 dyads of Spanish L1 children aged 8-9 and 10 dyads of older children, aged 10-11, matched for proficiency and carrying out a picture-placement task. Within each group, half of the dyads received standard EFL instruction only, and the other half received EFL and meaning-focused instruction (i.e., content and language integrated learning/CLIL). The data revealed an effect of the instructional approach on the amount of meaning negotiation, with CLIL + EFL learners outperforming their EFL-only peers in the use of conversational adjustments (i.e., clarification requests, confirmation checks, comprehension checks) and repetitions (i.e., self and other-repetitions). CLIL + EFL learners also resorted less to their L1 than their EFL counterparts to overcome communicative breakdowns. Overall, the combination of CLIL and EFL instruction appeared to better equip children for meaning negotiation in task-based peer interaction. The age of the children was

also found to have an impact on the number of interactional strategies used, with older learners producing fewer conversational adjustments and repetitions than the younger children, irrespective of instructional context, indicating that negotiation of meaning declines with increasing L2 proficiency.

Enlarging the data set in García Mayo and Lázaro-Ibarrola (2015) to include not just the picture-placement (i.e., two-way) task but also a guessing game (i.e., one way) task, Azkarai and Imaz Agirre (2016) further confirmed that the younger learners in the study, aged 8-9, employed certain negotiation of meaning strategies more often than the slightly older learners, aged 10-11. The instructional setting was also found to play a role in the quantity of interactional strategies used by the learners, irrespective of their age. Yet, on the basis of this enlarged data set, it was the EFL-only learners who, on the whole, outperformed their CLIL + EFL counterparts with regard to interactional strategies. The analysis of the conversational data also revealed a partial task effect, namely that, in the EFL-only group, there were more opportunities to negotiate for meaning in the guessing game than in the picture placement task.

Additionally, the proficiency level of the learners appears to condition their involvement in meaning negotiation in EFL communicative tasks. Working with eight pairs of Spanish L1 children aged 7-8, all of them at a beginner level, Lázaro-Ibarrola and Azpilicueta-Martínez (2015) showed that, even though the children used interactional strategies in EFL and were able to provide corrective feedback to each other, the rates were very low. For the researchers, this seemed to indicate that the proficiency level of the learners was too low for them to use interactional strategies systematically. Thus, for this to happen, a certain proficiency threshold needs to be attained in the L2. Similar to what was observed by Oliver (1998) in ESL contexts, the EFL children in this study produced no comprehension checks, most certainly on account of the egocentric nature of children at that age. The participants were also capable of providing corrective feedback to each other, and they used their L1 on very few occasions.

Young EFL learners' use of interactional strategies has also been found to change over time. The effect of time was initially gauged indirectly from comparisons between younger and older learner groups from the same instructional context as, for instance, in García Mayo and Lázaro-Ibarrola (2015), and Azkarai and Imaz Agirre (2016). As already mentioned, these studies found a decrease in children's reliance on meaning negotiation strategies as they got older. It is only recently that longitudinal data on the development of interactional strategies in young EFL learner interaction have become available. García Mayo and Imaz Agirre (2017) charted the one-year development of conversational adjustments, repetitions and L1 use in the oral interaction of 27 dyads of Spanish L1 children organized into two age groups (i.e., 8-9 years old and 10-11 years old)

and enrolled in EFL-only and CLIL + EFL in each age group. In line with García Mayo and Lázaro-Ibarrola (2015), and Azkarai and Imaz Agirre (2016), the findings indicated that learners' reliance on conversational adjustments and repetitions decreased with time, irrespective of their age at the onset of the study and their instructional modality, though this decrease was significant particularly with the youngest children in the CLIL + EFL group. Moreover, a decrease was also observable in the amount of L1 use of all learners, irrespective of age and instructional settings, except for older CLIL learners, who were assumed to have found the task not motivating enough on the second data collection. To our knowledge, no studies have explored the evolution of interactional strategies in child peer interaction in EFL over time spans longer than a year.

Finally, none of the studies on child peer interaction in EFL available to date has analyzed the extent to which the negotiation of meaning during L2 communicative tasks is carried out in the learners' L1, even though L1 use has been shown to be instrumental in L2 peer interaction task completion, particularly at low proficiency levels (DiCamilla & Antón, 2012; Storch & Aldosari, 2010). Studies on adult peer interaction in EFL have shown that learners' L1 assists them in completing L2 tasks beyond their L2 competence level, acting as a tool for managing the tasks, dealing with grammar issues and performing lexical searches (Alegría de la Colina & García Mayo, 2009; Azkarai & García Mayo, 2015). With regard to child peer interaction in EFL, some of the studies reviewed above reveal that this type of interaction is also characterized by a certain amount of L1 use, varying with the age of the learners (i.e., older learners tend to rely more on their L1 than younger learners) and the type of instruction they received (i.e., EFL-only learners use their L1 more frequently than their EFL + CLIL counterparts), mostly with a metacognitive function or for dealing with vocabulary deliberations (García Mayo & Hidalgo, 2017; García Mayo & Imaz Agirre, 2016, 2017; García Mayo & Lázaro-Ibarrola, 2015). In EFL settings, interactional data elicited from young learners also suggest that meaning-focused tasks (e.g., information gap tasks) generate more L1 use than form-focused tasks (e.g., L2 form written exercises; Tognini & Oliver, 2012). Insights into the interplay between learners' L2 and L1 for meaning negotiation during task-based peer interaction should further our understanding of the communicative strategies deployed by young learners in the early stages of instructed EFL and the extent to which they are able to stretch their L2 knowledge to overcome communicative breakdowns during task performance.

As can be seen from the review undertaken in this section, the understanding of interactional strategies used in task-based interaction by young learners of EFL is still in need of empirical evidence regarding the different mediating factors identified in previous studies, most of which were carried out in

the same context (i.e., Northern Spain). Factors such as the proficiency pairing of learners or the language in which they carry out the negotiation of meaning (i.e., L2 or their L1) have not been addressed in EFL contexts yet. Furthermore, little is known about the extent to which the different mediating factors (i.e., time, proficiency pairing, and the language of interaction) interact among themselves in children's output in EFL.

3. The study

In this study we explore the amount and types of meaning negotiation produced during task-based peer interaction by EFL primary school learners over a period of two years. We also analyze the extent to which negotiation of meaning instances are dependent on time, proficiency pairing and language choice effects, or on any interactions among these factors. To achieve this, oral production data were elicited twice by means of a spot-the-differences peer interaction task with children grouped into mixed and matched proficiency dyads. The following three research questions were posed:

1. What is the amount of L1 and L2 meaning negotiation and what are the most frequently used types during task-based child peer interaction?
2. What is the effect of time, proficiency pairing and language (i.e., L2 or L1) on EFL primary learners' meaning negotiation during task-based child peer interaction?
3. Is there any interaction between any of the three factors (i.e., time, proficiency pairing and language) analyzed in relation to EFL primary learners' meaning negotiation during task-based peer interaction?

On the basis of previous research on EFL child peer interaction, we predict that primary learners will indeed make use of negotiation of meaning (NoM) strategies both in the L2 and in the L1, although the frequency of occurrence of meaning negotiation strategies is predicted to be low (García Mayo & Imaz Agirre, 2016; 2017; García Mayo & Lázaro-Ibarrola, 2015; Lázaro-Ibarrola & Azpilicueta-Martínez, 2015; Pinter, 2006; 2007). Repetitions are expected to prevail over the rest of the strategies, and comprehension checks are expected to be used infrequently or to be nearly absent (García Mayo & Lázaro-Ibarrola, 2015; Lázaro-Ibarrola & Azpilicueta-Martínez, 2015). We also expect that the age of the children (measured here as time) will affect the frequency and types of meaning negotiation (Azkarai & Imaz Agirre, 2016; García Mayo & Imaz Agirre, 2017; García Mayo & Lázaro-Ibarrola, 2015). To our knowledge, the effects of proficiency pairing have not been studied in relation to negotiation of meaning among child EFL learners,

but previous studies on adult learners suggest that low proficiency learners in mixed dyads negotiate more than in matched dyads whereas high proficiency learners negotiate and modify their output more often in matched dyads (Iwashita, 2001). Differences between L1 and L2 meaning negotiation within the same task by the same learners and using the same categories have not been explored thus far.

3.1. Participants

As part of the same project on EFL task-based child peer interaction (Vraciu & Pladevall-Ballester, 2020), our participants were 40 bilingual Catalan/Spanish primary school children (21 male, 19 female) learning EFL in a limited exposure and low proficiency context. They were aged 9-10 years old at the time of the first data collection and 11-12 at the second data collection (i.e., 4th and 6th grade, respectively). A small group of children (N = 9) were not included in the study. Two of them had special educational needs, and the remaining seven children had a native speaker father/mother or had lived and been schooled in an English-speaking country for more than one year. With regard to their L2 exposure, children in 4th grade received 2 hours of EFL instruction and a 45-minute session of science CLIL per week. At the time of the first data collection, they had had 300 hours of in-school exposure over 5 years. Children in 6th grade received 3 hours of EFL instruction per week and had had a total of 510 hours of in-school exposure at the time of the second data collection. The children were organized into 10 matched proficiency dyads and 10 mixed proficiency dyads. Given that the researchers did not obtain permission from the school to run a placement test, proficiency differences among children were established on the basis of their English language academic achievement (i.e., general course marks) and teachers' perceptions on the students' oral abilities.

In 4th grade, 40% (16 out of 40) of the children attended extracurricular EFL afternoon sessions. The percentage rose to 53% (21 out of 40) students in 6th grade, but the majority had only started in the same year or the year before, and these sessions were limited to 1 up to 2.5 extra hours per week. The percentage of students attending extracurricular EFL sessions in each type of proficiency pairing was fairly similar at both data collection times (i.e., 30% in matched dyads vs. 50% in mixed dyads in 4th grade and 50% in matched dyads vs. 55% in mixed dyads). A Pearson chi-square test revealed that attendance to extracurricular sessions and dyad type membership were not related at either of the data collection times ($\chi^2(1, N = 40) = 1.66$, $p = 0.19$; $\chi^2(1, N = 40) = 0.10$, $p = .752$), so extracurricular exposure was therefore considered to have a similar impact in both groups.

3.2. Instruments and procedures

The data were collected by means of an oral two-way spot-the-differences task (Mackey, 2012). In pairs, learners were given 7 minutes to find as many differences as they could between their pictures by asking each other questions and providing descriptions. The two pictures showed a similar beach scene. Differences were related to the weather, children and adults' clothes and their activities on the beach. The researchers made sure the participants were generally familiar with the vocabulary to be used by consulting the teacher and reviewing the children's textbooks to ensure that the majority (but not all) of the vocabulary items had been at least presented and used in class. The recordings took place in a meeting room adjacent to the children's regular classroom. The task instructions were provided in Catalan/Spanish to make sure that the children understood them. Additionally and right at the start of the task, the researchers would ask some short personal questions in English to create a friendly atmosphere.

3.3. Data analysis

The children's oral production was audio recorded and transcribed according to the CHAT conventions from the *Child Language Data Exchange System* (CHILDES) database (MacWhinney, 2000). Following the coding scheme in Lázaro-Ibarrola and Azpilicueta-Martínez (2015), several categories of learner negotiation of meaning were selected and coded in the data: conversational adjustments (i.e., clarification requests, confirmation checks, comprehension checks), self and other repetition and positive and negative feedback (Long, 1996). As these categories were found to be used in the target language of the task (i.e., English) and also in the learners' L1 (i.e., Catalan and/or Spanish), it was decided to code them in each of the languages and establish language as a factor as well. A general variable that included all the strategies was also created (i.e., NoM). Percentages were calculated against numbers of utterances produced in each dyad, following García Mayo and Lázaro-Ibarrola (2015), and Oliver (1998).

The following definitions and examples from our data illustrate each of the categories in each language. A clarification request is an expression that asks for clarification on the previous utterance (Long, 1983). They are mainly achieved through the use of questions or imperatives, as indicated in italics in (1):

(1) *CHB: you have papers in the floor?
*CHA: no, I can you repeat please?
*CHB: you have papers in the floor?
(Dyad 2, mixed proficiency – Child A: high/Child B: low, Time 1)

(2) *CHA: ehm in your picture (..) there is a red flag?
*CHB: *<Què és?>@s:cat* [1]
[what is]
*CHA: <Bandera, és una bandera>@s:cat
[flag, it is a flag]
(Dyad 7, mixed proficiency – Child A: high/Child B: low, Time 2)

A confirmation check is an expression which seeks confirmation by the interlocutor that what has previously been said has been correctly heard or understood (Long, 1983). It is normally a repetition of the interlocutor's immediately preceding utterance with rising intonation:

(3) *CHB: In your paper there are a (...) one (...) [/] one woman drinking with the shirt blue, drinking water?
*CHA: *A [/] A woman?*
(Dyad 10, mixed proficiency – Child A: low/Child B: high, Time 2)

*CHB: uh mm you do want the barca@s:cat in the sea?
[boat]
*CHA: *barca@s:cat?* ah yes.
[boat]
(Dyad 8, matched proficiency – high/high, Time 1)

A comprehension check[2] seeks to confirm that one's interlocutor understands or follows what one has previously said (Long, 1983), mainly through the use of questions:

(4) *CHB: do you have a tower in the sea? *You understand?*
*CHA: tower in the sea? no, do you have this ?

*CHA: there is a flag, *<saps què és>@s:cat?*
[you know what it is?]
*CHB: sí@s:cat, I have.
[yes]

Self-repetitions and other-repetitions included exact repetitions of whole or parts of utterances produced by the same learner or by the interlocutor within five turns (as in García Mayo & Lázaro-Ibarrola, 2015, and Oliver, 1998):

[1] Following the CHILDES transcription conventions, *@s: cat* and *@s: spa* mean that the word preceding them is uttered in the child's L1 (i.e., Catalan or Spanish).
[2] The examples in this category are invented and not selected from our data as we did not find any comprehension checks in the L1 or in the L2.

(5) *CHB: I havent't got sunny.
*CHA: eh?
*CHB: *I havent't got sunny.*
(Dyad 1, matched proficiency – high/high, Time 1)

(6) *CHA: <com es deia castell, castell de sorra>@s:cat?
[how did you say castle, sand castle?]
*CHB: com@s:cat?
[what is this?]
*CHA: <*castell de sorra*>@s:cat.
[sandcastle]
(Dyad 5, matched proficiency – low/low, Time 1)

(7) *CHA: And... <com es diu cel?>@s:cat
[how do you say sky?]
*CHB: Sky! sky!
*CHA: And your *sky* is black and my is blue.
(Dyad 5, mixed-proficiency – Child A: low/Child B: high, Time 2)

(8) *CHA: <com es diu dormint>@s:cat.
[how do you say sleeping?]
*CHB: <*dormint*, no me'n recordo>@s:cat, podries dir>@s:cat, one
[sleeping, I don't remember] [you could say]
person dormint@s:cat.
[sleeping]
*CHA: *one person dormint@s:cat.*
[sleeping]
(Dyad 9, mixed-proficiency – Child A: high/Child B: low, Time 1)

In addition to conversational adjustments and instances of repetitions, we also analyzed instances of explicit positive and negative corrective feedback as part of the learners' interaction and process of meaning negotiation (Mackey, 2012). They are mainly instances of form-meaning mapping whether in the L2 or in the L1:

(9) *CHA: waterskiing
*CHB: what is?
*CHA: *is is the, the one person in the (..) skies of the water.*
(Dyad 6, matched proficiency – high/high, Time 1)

(10) *CHA: There [/] there are trash in your picture?
*CHB: What is trash?
*CHA: *Es@s:spa mm basura@s:spa*
[it's trash]
(Dyad 6, matched proficiency – high/high, Time 2)

(11) *CHA: <com es diu barco@s:cat?> I have a barco@s:spa.
[how do you say boat?] [a boat]
*CHB: barco@s:cat *is boat.*
(Dyad 1, Mixed Child A: low/Child B: high, Time 1)

(12) *CHB: this fish they are fish.
*CHA: *fishing, seria@s:cat fishing.*
[would be]
(Dyad 5, matched proficiency – low/low, Time 1)

We performed a generalized linear mixed model using SPSS statistical package with time, proficiency pairing and language (i.e., L2 and L1) as fixed factors and negotiation of meaning categories as the dependent variables. Subject (i.e., pairs) was included as a random effect. The model also analyzed interaction effects between the factors (i.e., two-way interactions: time*proficiency pairing, time*language and proficiency pairing*language; a three-way interaction: time*proficiency pairing*language), but only those that were significant differences have been reported. The alpha level of the model was set at .05. We also compared the dependent variables among each other within each of the two languages through a Friedman test and subsequent Wilcoxon signed-rank tests. The alpha levels in these two tests were set at .01.

4. Results

Our research questions addressed the amount of L2 and L1 meaning negotiation used by primary school EFL learners, the most frequently used types of meaning negotiation in each language and the effects of time, proficiency pairing and language on them together with potential interactions between the factors during task-based peer interaction. Amount of L2 and L1 meaning negotiation, as measured by percentage of meaning negotiation types together (i.e., NoM) in relation to number of utterances is remarkably low and appears to be higher in the L2 (M = 10.24, SD = 7.10) than in the L1 (M = 7.30, SD = 5.89). Table 1 and Figure 1 show the percentages of the use of the different categories of learner NoM in each language. No instances of comprehension checks were found in our data.

Within L2 meaning negotiation, other-repetition prevails over the rest of the categories (M = 2.25, SD = 2.38), followed by clarification requests (M = 2.11, SD = 3.45), positive feedback (M = 2.07, SD = 2.50), confirmation checks (M = 1.82, SD = 2.68), self-repetition (M = 1.60, SD = 2.88), and negative feedback (M = 0.37, SD = 0.98). A Friedman test revealed significant differences among the percentages ($\chi^2(5) = 23.429$, $p < .001$), with negative feedback being significantly less widely used than the rest of the categories ($p < .01$).

Table 1 Descriptive statistics of meaning negotiation categories in each language

	L2		L1	
	% Mean[3]	*SD*	% Mean	*SD*
Clarification requests	2.11 (39/1886)	3.45	3.13 (56/1886)	3.00
Confirmation checks	1.82 (36/1886)	2.68	1.34 (22/1886)	1.93
Self-repetition	1.60 (27/1886)	2.88	0.86 (15/1886)	1.49
Other repetition	2.25 (46/1886)	2.38	0.25 (6/1886)	0.63
Positive feedback	2.07 (40/1886)	2.50	1.64 (31/1886)	2.27
Negative feedback	0.37 (8/1886)	0.98	0.05 (1/1886)	0.31

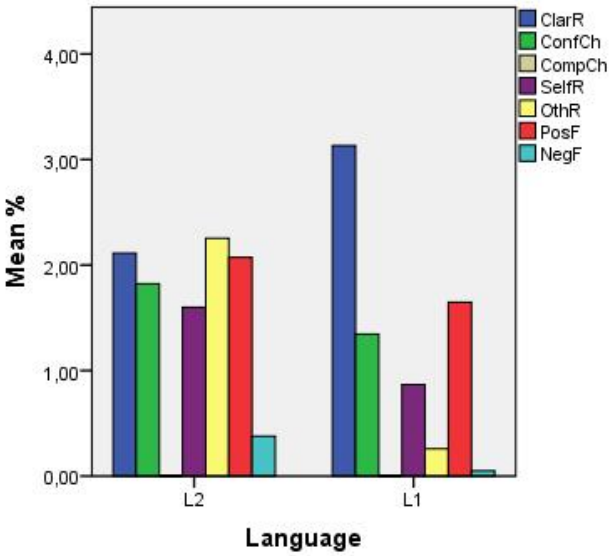

Figure 1 Percentages and distribution of meaning negotiation categories in each language

When examining L1 meaning negotiation, clarification requests prevail over the rest of the categories (*M* = 3.13, *SD* = 3.00), followed by positive feedback (M = 1.64, SD = 2.27), confirmation checks (*M* = 1.34, *SD* = 1.93), self-repetition (*M* = 0.86, *SD* = 1.49), other-repetition (*M* = 0.25, *SD* = 0.63) and negative feedback (*M* = 0.05, *SD* = 0.31). A Friedman test revealed significant differences among the percentages ($\chi^2(5) = 58.588$, $p < .001$), with clarification requests being significantly more widely used than the rest of the categories ($p < .01$), positive feedback being significantly more widely used than other repetition and

[3] Raw numbers of frequency of occurrence of each strategy and the number of utterances are provided (*N*/*N*). Notice that the percentages resulting from these raw numbers slightly differ from the ones provided as they were obtained as a result of the mean of each dyad's percentages; therefore, rounding effects are responsible for the slight differences.

negative feedback ($p < .01$), and negative feedback being significantly less used than the rest of the categories ($p < .01$) and descriptively less used than other repetition.

As for the effects of time, proficiency pairing, language and their interaction on the general category NoM, we find a significant proficiency pairing effect, irrespective of time and language ($F(1, 72) = 5.653$, $p = .020$), with mixed dyads negotiating for meaning more ($M = 10.42$, $SD = 6.97$) than matched dyads ($M = 7.12$, $SD = 5.96$), and a significant language effect, irrespective of proficiency pairing and time ($F(1, 72) = 4.496$, $p = .037$) with significantly more instances of L2 ($M = 10.24$, $SD = 7.11$) than L1 meaning negotiation ($M = 7.30$, $SD = 5.89$). Time does not show any significant effects, and, hence, similar amounts of NoM are found at the two data collection times, which are two years apart. Our analysis displayed one significant interaction, namely between proficiency pairing and language ($F(1, 72) = 4.406$, $p = .039$), where mixed dyads produced more NoM ($M = 13.17$, $SD = 7.13$) than matched dyads ($M = 7.31$, $SD = 5.90$) but only in the L2. Table 2 and Figure 2 display descriptive statistics of NoM by proficiency pairing, time and language.

Table 2 Descriptive statistics of NoM by proficiency pairing, time and language

			Mean %	*SD*
Matched	T1	L2	7.35 (35/472)	5.74
		L1	10.06 (46/472)	5.07
	T2	L2	7.27 (45/542)	6.37
		L1	3.82 (22/542)	5.75
Mixed	T1	L2	14.01 (58/409)	7.84
		L1	7.39 (30/409)	5.09
	T2	L2	12.33 (58/463)	6.65
		L1	7.94 (33/463)	6.58

Notes. T1 = Time 1; T2 = Time 2.

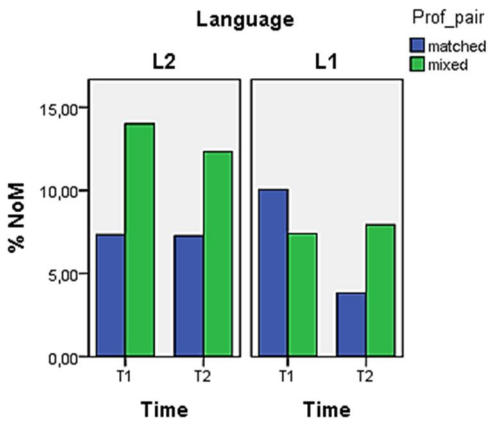

Figure 2 NoM by proficiency pairing, time and language

In relation to clarification requests, only a marginal time effect was observed ($F(1, 72) = 3.847$, $p = .054$), irrespective of proficiency pairing and language, with a significantly higher percentage of clarification requests at Time 1 ($M = 3.30$, $SD = 3.63$) than at Time 2 ($M = 1.94$, $SD = 2.72$). A significant three-way interaction was found between proficiency pairing, time and language ($F(1, 72) = 4.225$, $p = .043$), where a pairwise comparison on the basis of time determined a significantly higher percentage of clarification requests at Time 1 ($M = 4.99$, $SD = 3.02$) than at Time 2 ($M = 1.41$, $SD = 2.52$) in matched dyads and in the L1 ($F(1,72) = 8.008$, $p = .006$). Figure 3 illustrates clarification requests by proficiency pairing, time and language.

Confirmation checks showed a significant proficiency pairing effect ($F(1, 72) = 7.960$, $p = .006$), irrespective of time and language, with mixed dyads producing higher percentages of confirmation checks ($M = 2.29$, $SD = 2.78$) than matched dyads ($M = 0.88$, $SD = 1.53$). A significant interaction was found between proficiency pair and time ($F(1, 72) = 5.468$, $p = .022$), where mixed dyads produced a significantly higher percentage of confirmation checks ($M = 2.80$, $SD = 3.09$) than matched dyads ($M = 0.22$, $SD = 0.74$) at Time 2. Figure 4 illustrates confirmation checks by proficiency pairing, time and language.

Regarding self-repetitions, a significant time effect was observed ($F(1, 72) = 4.227$, $p = .043$) since a higher percentage of self-repetitions was found at Time 1 ($M = 1.74$, $SD = 2.86$) than at Time 2 ($M = 0.73$, $SD = 1.45$). No interaction effects were found. Figure 5 illustrates self-repetitions by proficiency pairing, time and language.

Other-repetitions showed a significant language effect ($F(1, 72) = 26.423$, $p < .001$) with more L2 other repetitions ($M = 2.25$, SD = 2.39) than L1 other repetitions ($M = 0.26$, $SD = 0.64$). A significant interaction was found between proficiency pair and language ($F(1, 72) = 3.982$, $p = .050$), where both mixed and matched dyads produced a significantly higher percentage of other repetitions in the L2 than in the L1 ($M = 2.89$, $SD = 2.64$; $M = 0.12$, $SD = 0.55$; $F(1,72) = 25.461$, $p < .001$) ($M = 1.62$, $SD = 1.98$; $M = 0.39$, $SD = 0.71$; $F(1,72) = 4.945$, $p = .029$). Figure 6 illustrates other-repetitions by proficiency pairing, time and language.

Regarding positive feedback, no significant effects of any of the factors were observed. Figure 7 illustrates positive feedback by proficiency pairing, time and language.

The last strategy analyzed was negative feedback, where a proficiency pairing significant effect ($F(1, 72) = 5.086$, $p = .027$) and a language significant effect ($F(1, 72) = 4.233$, $p = .043$) were found, whereby mixed dyads again produced more negative feedback ($M = 0.39$, $SD = 1.00$) than matched dyads ($M = 0.03$, $SD = 0.22$), and higher percentages of negative feedback were observed in the L2 ($M = 0.38$, $SD = 0.98$) than in the L1 ($M = 0.05$, $SD = 0.32$). No interaction

effects between any of the factors examined were found. Figure 8 illustrates negative feedback by proficiency pairing, time and language.

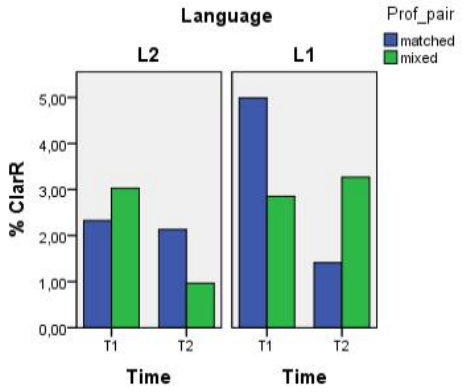

Figure 3 Clarification requests

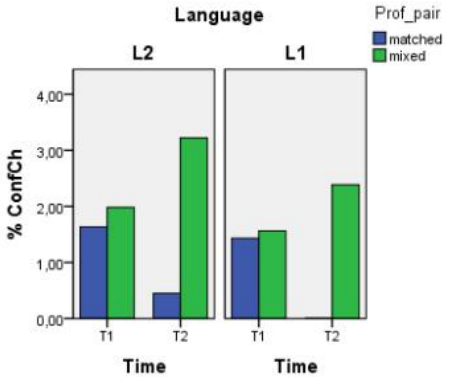

Figure 4 Confirmation checks

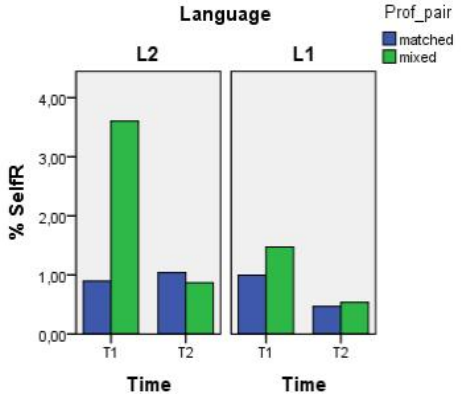

Figure 5 Self-repetitions

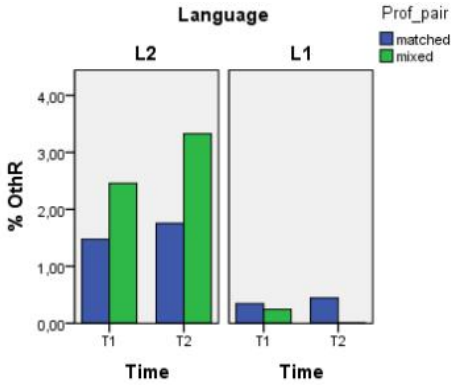

Figure 6 Other repetitions

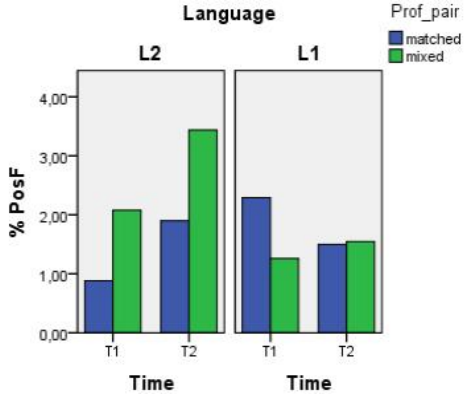

Figure 7 Positive feedback

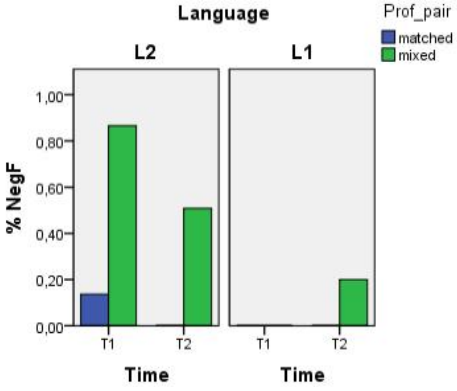

Figure 8 Negative feedback

5. Discussion

Our first research question targeted the amount of L1 and L2 meaning negotiation and their most frequently used types during EFL child peer interaction. Our results indicate that child learners could indeed negotiate for meaning and followed the same pattern as in previous research in EFL contexts, whereby the amount of meaning negotiation in relation to the utterances produced was remarkably low (Azkarai & Imaz Agirre, 2016; García Mayo & Imaz Agirre, 2016; Garcia Mayo & Imaz Agirre, 2017; García Mayo & Lázaro-Ibarrola, 2015; Lázaro-Ibarrola & Azpilicueta-Martínez 2015; Pinter, 2006, 2007). Yet, L2 meaning negotiation was significantly higher than L1 meaning negotiation in a set of data where general L1 use while carrying out the task was much higher than in similar studies (63.28% at Time 1 and 32.01% at Time 2, Vraciu & Pladevall-Ballester, 2020). This indicates that NoM strategies are part of the children's linguistic repertoire in their target language and that, despite their low proficiency levels, the young learners in our study display a certain readiness to engage in NoM in the target language, just like low proficiency dyads in ESL settings (Oliver, 2002). The laboratory conditions under which the data were collected (i.e., with the researcher monitoring the unfolding of the task) may also have enhanced learners' commitment towards using the target language to deal with communicative breakdowns during the task. This commitment may have been different in the context of the classroom (Foster, 1998) although other studies (Gass et al., 2005) found no differences in various interaction features between classroom and laboratory studies.

All types of meaning negotiation strategies were present in the data to various extents, except for comprehension checks, which were not revealed, similar to Lázaro-Ibarrola and Azpilicueta-Martínez (2015). Scarcity of the use of comprehension checks was already observed in Oliver (1998) in ESL contexts, and in García Mayo and Lázaro-Ibarrola (2015) for EFL and CLIL learners. This was explained in terms of the age of the children and their tendency not to anticipate understanding problems of the other member of the dyad. It is also true that their limited level of English most probably forces them to focus on their own speech and not on whether their interlocutors understand or follow what they are trying to communicate. Within L2 meaning negotiation, other-repetition was the strategy that prevailed over the rest, albeit not significantly. In line with García Mayo and Lázaro-Ibarrola (2015), and Lázaro-Ibarrola and Azpilicueta-Martínez (2015), child learners often resorted to incorporating (part of) their peers' contribution into their own turns, particularly when they did not know specific lexical items to carry on with the task. In this sense, L2 other-repetitions represent a communicative scaffolding, which allows low-proficiency learners to perform beyond their level of expertise, stretching the boundaries of

their L2 competence (Ohta, 2001; Swain, Brooks, & Tocalli-Beller, 2002). The strategy that children used the least in the L2 was negative feedback, which was also the case in Oliver (1998) for ESL child peer interaction. The children probably had too low a level of English to focus on form and give feedback on the output of their interactional partner. Also, the tasks employed in the study were not form-focused enough to prompt learners into discussing language use, as they did not involve any text reconstruction (García Mayo, 2002).

As for the strategies of meaning negotiation in the L1, clarification requests were the most widely used while negative feedback was hardly ever present in the data. Clarification requests were common in the L1, particularly when children asked about the meaning of certain lexical items used by their interlocutors or when they did not understand the utterance as a whole. The very few instances of negative feedback in the data were mainly the provision of the correct L2 lexical item, they very rarely concerned the form or structure of the children's utterances and, therefore, they were mainly provided in the L2. Our data support the claim that the use of the learners' L1 is instrumental in the fulfilment of the L2 communicative task, particularly with low-proficiency learners (Pladevall-Ballester & Vraciu, 2017).

The second research question dealt with the potential effects of time, task, proficiency pairing and language on the children's use of meaning negotiation strategies (on the whole and for each category separately) both in the L2 and the L1. As for the general category NoM, no effects of time emerged from the data, although the two data collection times were two years apart and the same cohort of children had reduced their use of the L1 almost by half at Time 2 (Vraciu & Pladevall-Ballester, 2020). The lack of effects of time in the present study contradicts the effects of age/time observed in García Mayo and Lázaro-Ibarrola (2015), García Mayo and Imaz Agirre (2017), and Azkarai and Imaz Agirre (2016), where the older groups used fewer instances of conversational adjustments and repetitions. However, it is in line with Oliver (1998), who did not find significant age differences in the use of NoM strategies with similar age groups. Proficiency pairing and language significant effects were observed, whereby, as expected, mixed dyads negotiated more irrespective of language and task, and L2 meaning negotiation was significantly more frequent than L1 meaning negotiation. Unlike what was observed in ESL settings (e.g., Oliver, 2002), mixed dyads tended to negotiate more and produce more modified output than matched dyads. In our data, although the number of matched versus mixed dyads was the same, mixed dyads were always formed by high-low pairs whereas half of the matched dyads were formed by low-low pairs and the other half were formed by high-high pairs. The higher number of high-low pairs probably resulted in higher percentages of NoM, since the members of such dyads need to readjust their output and input in order

to accommodate or understand their conversational partner. Thus, using meaning negotiation strategies becomes essential to accomplishing the task (Iwashita, 2001). The fact that NoM was significantly more frequent in the L2 than in the L1 is indeed a very positive finding of the study, considering the children's command of the target language, the kind of exposure they have to it, their context of learning, and the limited use of task-based interaction in their regular classes.

With regard to the effects of the fixed factors on each of the strategies, time effects were only observed in self-repetitions and marginally in clarification requests, with fewer self-repetitions and clarification requests at Time 2, where proficiency is higher and learners are older and do not need to reproduce their own contributions to carry on with the task, which is usually seen as a sign of low-level interlanguage, both in ESL (Oliver, 2002) and in EFL (García Mayo & Imaz Agirre, 2017). Proficiency pairing effects were evident in confirmation checks and negative feedback, and it was always the mixed dyads that produced more meaning negotiation strategies. Following Watanabe and Swain (2007), this seems to indicate that working with less proficient peers is beneficial also for the higher proficiency member of the dyad who has to deploy a series of conversational strategies that may prompt them into noticing form-meaning connections as they try to make themselves understood. Matched dyads probably did not have that much need to adjust their interaction within the dyad. Furthermore, in the case of matched low dyads, their level of English had not reached the minimum threshold to negotiate for meaning (Lázaro-Ibarrola & Azpilicueta-Martínez, 2015). In the case of language of interaction effects, it was always the L2 that was favored over the L1, and while these effects were not seen in the use of conversational adjustments, they were evident in other-repetitions and negative feedback. The children's level of English might probably account for similar levels of L1-L2 conversational adjustments, but it also explains their need to repeat their interlocutor's utterances in the L2 to reinforce their own understanding and production of target contributions. Regarding negative feedback, it was linked to the provision of corrections of target lexical items in the L2. Very rarely did the learners manage to correct grammatical form (see (12) in the Data analysis section).

Finally, the third research question addressed potential interaction effects among the factors analyzed. Three two-way and one three-way interaction effects were found in the data, namely with NoM, confirmation checks, other repetition and clarification requests. With the general category NoM, there was a significant interaction between proficiency pairing and language, by which mixed dyads produced higher percentages of NoM than matched dyads but only in the L2. As already mentioned, the mixed dyads in our study combined the lexical expertise of the proficient learner with an increased need to deal with communicative breakdowns on account of the weaker member of the dyad. The

contrast between the two types of dyads was not seen in the L1 instances of NoM. Other-repetitions displayed the same interaction between proficiency pairing and language but this time both types of dyads produced more other-repetitions in the L2 than in the L1. Low proficiency learners are more in need to repeat their interlocutor's utterances in the L2 to carry on with the task. Confirmation checks displayed a significant interaction between proficiency pairing and time, where mixed dyads produced significantly more confirmation checks than matched dyads at Time 2. Finally, clarification requests showed a three-way interaction between all the factors where the pairwise comparisons yielded time differences in matched dyads and only in the L1, which would be in line with the general decrease of the L1 in the whole set of data.

6. Conclusions

This study has explored the amount of NoM, repetition and feedback produced by EFL young learners in task-based peer interaction and the mediating effect of time, proficiency pairing and the choice of the language of interaction. Our data show that, in the case of spot-the-difference tasks, young learners are able to engage in meaning negotiation, making their production more comprehensible for their partner, providing feedback and incorporating it into their utterances, all of which constitute opportunities for L2 learning. Further research should explore the immediate outcomes of the negotiation of meaning strategies and the extent to which these opportunities result in L2 gains, particularly when child peer interaction takes place in the actual classroom context. While we have tried to refine the grain of the analysis of interactional strategies in child peer interaction by considering mediating factors not explored until now in EFL contexts, other dimensions still need to be considered, such as the interactional style of the dyads or a wider range of communicative tasks, and the proficiency pairings need to be further discriminated, particularly within the matched dyads. Nonetheless, we believe that our findings should encourage EFL instructors in primary schools to promote task-based peer interaction in their classes and provide their learners with more scaffolding for meaning negotiation in L2 through formulaic language and explicit training in meaning negotiation strategies.

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References

Alcón, E. (2002). Relationship between teacher-led versus learners' interaction and the development of pragmatics in the EFL classroom. *International Journal of Educational Research*, *37*(3-4), 359-377.

Alegría de la Colina, A., & García Mayo, M. (2007). Attention to form across collaborative tasks by low-proficiency learners in an EFL setting. In M.P. García Mayo (Ed.), *Investigating tasks in formal language learning* (pp. 91-116). Clevedon: Multilingual Matters.

Alegría de la Colina, A., & García Mayo, M. P. (2009). Attention to form across collaborative tasks by low-proficiency learners in an EFL setting. In M. P. García Mayo (Ed.), *Investigating tasks in formal language learning* (pp. 91-116). Clevedon: Multilingual Matters.

Azkarai, A., & García Mayo, M. P. (2015). Task-modality and L1 use in EFL oral interaction. *Language Teaching Research*, *19*(5), 550-571.

Azkarai, A., & Imaz Agirre, A. (2016). Negotiation of meaning strategies in child EFL mainstream and CLIL settings. *TESOL Quarterly*, *50*(4), 844-870.

Collins, L., & Muñoz, C. (2016). The foreign language classroom: Current perspectives and future considerations. *Modern Language Journal*, *100*(S1), 133-147.

DiCamilla, F. J., & Antón, M. (2012). Functions of L1 in the collaborative interaction of beginning and advanced second language learners. *International Journal of Applied Linguistics*, *22*(2), 160-188.

Foster, P. (1998). A classroom perspective on the negotiation of meaning. *Applied Linguistics*, *14*(1), 1-23.

García Mayo, M. P. (2002). The effectiveness of two form-focused tasks in advanced EFL pedagogy. *International Journal of Applied Linguistics*, *12*(2), 156-175.

García Mayo, M. P. (2018). Child task-based interaction in EFL settings: Research and challenges. *International Journal of English Studies, 18*(2), 119-143.

García Mayo, M. P., & Imaz Agirre, A. (2016). Task repetition and its impact on EFL children's negotiation of meaning strategies and pair dynamics: An exploratory study. *The Language Learning Journal*, *44*(4), 451-466.

García Mayo, M. P., & Hidalgo, M. (2017). L1 use among young EFL mainstream and CLIL learners in task-supported interaction. *System*, *67*, 132-145.

García Mayo, M. P., & Imaz Agirre, A. (2017). Child EFL interaction: Age, instructional setting and development. In J. Enever & E. Lindgren (Eds.), *Researching the complexity of early language learning in instructed contexts* (pp. 249-268). Bristol: Multilingual Matters.

García Mayo, M. P., & Lázaro-Ibarrola, A. (2015). Do children negotiate for meaning in task-based interaction? Evidence from CLIL and EFL settings. *System*, *54*, 40-54.

García Mayo, M. P., & Pica, T. (2000). L2 learner interaction in a foreign language setting: Are learning needs addressed?. *IRAL – International Review of Applied Linguistics in Language Teaching*, *38*(1), 35-58.

Gass, S. M., & Mackey, A. (2006). Input, interaction and output: An overview. *AILA Review*, *19*(1), 3-17.

Gass, S., Mackey, A., & Ross-Feldman, L. (2005). Task-based interactions in classroom and laboratory settings. *Language Learning*, *55*(4), 575-611.

Hartup, W. (1989). Social relationships and their developmental significance. *American Psychologist*, *44*(2), 120-126.

Iwashita, N. (2001). The effect of learner proficiency on interactional moves and modified output in non-native interaction in Japanese as a foreign language. *System, 29*(2), 267-287.

Kim, Y. (2013). Effects of pretask modeling on attention to form and question development. *TESOL Quarterly*, *47*(1), 8-35.

Kuiken, F., & Vedder, I. (2002). The effect of interaction in acquiring the grammar of a second language. *International Journal of Educational Research*, *37*(3-4), 343-358.

Lázaro-Ibarrola, A., & Azpilicueta-Martínez, R. (2015). Investigating negotiation of meaning in EFL children with very low levels of proficiency. *International Journal of English Studies*, *15*(1), 1-21.

Long, M. H. (1983). Linguistic and conversational adjustments to non-native speakers. *Studies in Second Language Acquisition*, *5*(2), 177-193.

Long, M. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413-468). San Diego: Academic Press.

Mackey, A. (2007). Interaction as practice. In R. M. DeKeyser (Ed.), *Practice in a second language: Perspectives from applied linguistics and cognitive psychology* (pp. 85-110). Cambridge: Cambridge University Press.

Mackey, A. (2012). *Input, interaction and corrective feedback in L2 learning*. Oxford: Oxford University Press.

Mackey, A., Kanganas, A. P., & Oliver, R. (2007). Task familiarity and interactional feedback in child ESL classrooms. *TESOL Quarterly*, *41*(2), 285-312.

MacWhinney, B. (2000). *The CHILDES project: Tools for analyzing talk: Transcription format and programs* (3rd ed.). Mahwah, NJ, US: Lawrence Erlbaum.

McDonough, K. (2004). Learner-learner interaction during pair and small group activities in a Thai EFL context. *System*, *32*(2), 207-224.

Muñoz, C. (2007). Age-related differences and second language learning practice. In R. M. DeKeyser (Ed.), *Practice in a second language: Perspectives from applied linguistics and cognitive psychology* (pp. 229-255). Cambridge: Cambridge University Press.

Ohta, A. S. (2000). Rethinking interaction in SLA: Developmentally appropriate assistance in the zone of proximal development and the acquisition of L2 grammar. In J. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 51-78). Oxford: Oxford University Press.

Ohta, A. S. (2001). *Second language acquisition processes in the classroom: Learning Japanese*. Mahwah, NJ: Lawrence Erlbaum.

Oliver, R. (1998). Negotiation of meaning in child interactions. *Modern Language Journal*, *82*(3), 372-386.

Oliver, R. (2000). Age differences in negotiation and feedback in classroom and pair work. *Language Learning*, *50*(1), 119-151.

Oliver, R. (2002). The patterns of negotiation for meaning in child interactions. *Modern Language Journal*, *86*(1), 97-111.

Philp, J., Adams, R., & Iwashita, N. (2014). *Peer interaction and second language learning*. New York: Routledge.

Philp, J., Oliver, R., & Mackey, A. (2008). Child's play. Second language acquisition and the younger learner in context. In J. Philp, R. Oliver, & A. Mackey (Eds.), *Second Language Acquisition and the Younger Learner. Child's Play?* (pp. 3-23). Amsterdam: John Benjamins.

Philp, J., & Tognini, R. (2009). Language acquisition in foreign language contexts and the differential benefits of interaction. *IRAL – International Review of Applied Linguistics in Language Teaching*, *47*(3-4), 245-266.

Pinter, A. (2006). Verbal evidence of task related strategies: Child versus adult interactions. *System*, *34*(4), 615-630.

Pinter, A. (2007). Some benefits of peer–peer interaction: 10-year-old children practising with a communication task. *Language Teaching Research*, *11*(2), 189-207.

Pinter, A. (2017). *Teaching young language learners*. Oxford: Oxford University Press.

Pladevall-Ballester, E., & Vraciu, A. (2017). Exploring early EFL: L1 use in oral narratives by CLIL and non-CLIL primary school learners. In M. P. García Mayo (Ed.), *Learning foreign languages in primary school: Research insights* (pp. 124-148). Multilingual Matters.

Sato, M., & Ballinger, S. (2016).Understanding peer interaction. In M., Sato, & S. Ballinger (Eds.), *Peer interaction and second language learning: Pedagogical potential and research agenda* (pp. 1-30). Amsterdam: John Benjamins.

Storch, N., & Aldosari, A. (2010). Learners' use of first language (Arabic) in pair work in an EFL class. *Language Teaching Research*, *14*(4), 355-375.

Swain, M., Brooks, L., & Tocalli-Beller, A. (2002). Peer-peer dialogue as a means of second language learning. *Annual Review of Applied Linguistics*, *22*, 171-185.

Tognini, R., & Oliver, R. (2012). L1 use in primary and secondary foreign language classrooms and its contribution to learning. In E. Alcón Soler & M. P. Safont

Jordá (Eds.), *Discourse and learning across L2 instructional contexts* (pp. 53-78). Amsterdam: Rodopi.

Vraciu, A., & Pladevall-Ballester, E. (2020). L1 use in peer interaction: Exploring time and proficiency pairing effects in primary school EFL. *International Journal of Bilingual Education and Bilingualism.* Advance online publication. http://doi.org/10.1080/13670050.2020.1767029

Watanabe, Y., & Swain, M. (2007). Effects of proficiency differences and patterns of pair interaction on second language learning: Collaborative dialogue between adult ESL learners. *Language Teaching Research*, *11*(2), 121-142.