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L1 use in peer interaction: exploring time and proficiency pairing effects in primary school EFL

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This longitudinal study explores the effects of time and proficiency pairing on the amount and purpose of L1 use in task-based peer interaction by EFL primary school learners. Most of the studies available to date on L1 use in peer interaction involve adult learners, and we have little empirical evidence on the role played by the L1 in child peer interaction, particularly in low exposure contexts. Oral production data was elicited from forty Catalan/Spanish bilingual children who performed a spot-the-differences task, paired up in mixed and matched proficiency dyads. The data were collected twice over the course of two academic years (i.e. when children were 9-10 and 11-12 years old). The results show time effects on the frequency of L1 use and the range of functions it fulfils in child peer interaction, but very limited effects of proficiency pairing. We discuss the implications of our findings for the EFL classroom practice.

Keywords: L1 use, peer interaction, young learners, EFL, task, proficiency pairing.

1 Introduction

Communicative language teaching pedagogy has turned peer interaction into an established communicative scenario in the foreign language classroom, where it provides a meaningful context for language (L2) production and practice (Foster and Ohta, 2005; Philp, Walter, Basturkmen, 2010). The L2 learning potential of peer interaction has been claimed to reside in the opportunities it creates for the internalisation of rote-learned language structures, negotiation of meaning, provision of corrective feedback and production of modified output, as well as for enhanced learner attention to form, all of which are key psycholinguistic processes in the development of the L2 competence (Mackey and Goo, 2007; Philp, Adams and Iwashita, 2014; Philp and Tognini, 2009).

A distinctive feature of peer interaction in foreign language contexts is the fact that the participants are likely to rely on their shared mother tongue (L1) during what is intended to be a scenario for L2 practice. While this reliance is unavoidable, especially at low proficiency levels, excessive use of the learners' L1 runs counter to the psycholinguistic rationale for peer interaction in the foreign language class (Carless, 2008). Yet, the empirical evidence available to date from peer interaction in foreign language settings indicates that learners tend to use their L1 moderately and for a range of social and cognitive functions that actually support, rather than impede, the development of their L2 (Alegria de la Colina and Garcia Mayo, 2009; Antón and DiCamilla, 1998; Azkarai and Garcia Mayo, 2015; Brooks and Donato, 1994; DiCamilla and Antón, 2012; Garcia Mayo and Hidalgo, 2017; Storch and Aldosari, 2010; Tognini and Oliver, 2012).

Learners' use of their L1 as a communicative strategy in L2 tasks has been explored from a cross-linguistic influence perspective, with numerous studies carried out in the Spanish context (Arratibel-Irazusta and Martinez Adrián, 2018; Celaya, 2005; Cenoz, 2001, 2003; Lázaro-Ibarrola and García Mayo, 2012; Lázaro-Ibarrola, 2016; Muñoz, 2007; Pladevall-Ballester and Vraciu, 2017,

among others). These studies uncovered a series of factors that affect the amount and types of L1 use in L2 production: the age of the learners, older learners using their L1 more often than younger learners (Cenoz, 2001, 2003); their proficiency level, with more cross-linguistic influence among the less proficient learners and a decrease in L1 reliance as L2 proficiency increases (Celya, 2005; Muñoz, 2007; Pladevall-Ballester and Vraciu, 2017); and the type of instruction, with learners who receive content-based L2 instruction making a lower use of their L1 in comparison to learners receiving form-focused L2 instruction only (Arratibel-Irazusta and Martínez Adrián, 2018; Lázaro-Ibarrola and García Mayo, 2012; Lázaro-Ibarrola, 2016).

L1 use has also been analysed as a communicative strategy in L2 tasks involving peer interaction. This strand of research, typically carried out with adult learners, has revealed that L1 use in L2 peer interaction appears to vary quantitatively and qualitatively as a function of learners' proficiency level and the type of task they perform (Alegria de la Colina and García Mayo, 2007; Azkarai and García Mayo, 2015; Storch and Aldosari, 2010). It is only recently that researchers have started to explore L1 use in child peer interaction. The findings indicate a role for age, gender, proficiency level, task type and procedure, and instructional modality in the amount and function of L1 use (Azkarai and García Mayo, 2015; 2017; Azkarai and Imaz Agirre, 2016; García Mayo and Hidalgo, 2017; García Mayo and Lázaro-Ibarrola, 2015; Lázaro-Ibarrola and Azpilicueta-Martínez, 2015; Tognini and Oliver, 2012).

Nonetheless, little is known on the impact of proficiency pairing on the amount of L1 use and its functions in child peer interaction, even though proficiency is a major concern for L2 instructors in multilevel classes at all educational levels with regard to pair and group work (Hess, 2001). The role of L2 proficiency pairing has been explored in adult peer interaction, where the type of learner grouping (i.e. matched or mixed proficiency dyads) has been found to affect learners' reliance on their L1 (Storch and Aldosari, 2010) as well as the amount of meaning negotiation and modified output produced (Gass and Varonis, 1985; Iwashita, 2001). No empirical evidence is available to date on how proficiency pairing might affect L1 use and functions in child peer interaction. In addition, most studies on L2 peer interaction with young learners have considered L1 use and its functions from a cross-sectional perspective. To date, there is a very limited body of research on the longitudinal evolution of L1 use in child peer interaction, with young learners who received considerable in-school L2 exposure (i.e. from 5 up to 12-13 hours per week) (García Mayo and Hidalgo, 2017; García Mayo and Imaz Agirre, 2017). More longitudinal data is necessary, also from contexts where young learners have limited in-school contact with the L2 (i.e. 2-3 hours per week, on average) as is the case in primary education in Catalonia and other European countries (Enever, 2011). Thus, the present study aims to fill these gaps by exploring how L1 use and its functions might be dependent on time and proficiency pairing effects in task-based peer interaction with English as a foreign language (hereafter EFL) primary school learners in a limited L2 exposure context.

2 Literature Review

2.1 L1 use in adult peer interaction

The understanding we have nowadays of the use of the L1 in task-based L2 interaction between peers goes beyond its contribution to learners' interlanguage in terms of positive or negative transfer. From a sociocultural perspective of L2 learning (De Guerrero and Villamil, 1994; Lantolf, 2000; Lantolf and Appel, 1994), learners' L1 is a strategic communicative and cognitive tool, which mediates their construction of L2 knowledge as well as of the social space of the interaction and facilitates the completion of the task, particularly at low proficiency levels (Antón and DiCamilla, 1998). In L2 exposure-rich contexts (i.e. immersion and second language contexts), learners have been found to rely on their L1 mostly for managing the task (i.e. clarifying task instructions, procedures and goals), adjusting their understanding of the task (i.e. metacognitive talk), dealing with problematic grammar and lexis (i.e. metatalk), and, occasionally, for establishing interpersonal rapport (Storch and Wigglesworth, 2003; Swain and Lapkin, 2000).

In foreign language settings, adult learners tend to use their L1 during L2 tasks for a similar range of communicative purposes as in second language/immersion contexts but the amount and purpose of L1 use is mediated by a series of task and learner-related factors (Alegria de la Colina and García Mayo, 2009; Azkarai and García Mayo, 2015; Brooks and Donato, 1994; DiCamilla and Antón, 2012; Storch and Aldosari, 2010). In a study of the oral interaction of 12 pairs of undergraduate Spanish-speaking learners of EFL with low proficiency L2 levels and performing three collaborative tasks (i.e. a jigsaw, a text reconstruction and a dictogloss), Alegria de la Colina and García Mayo (2009) found that learners produced relatively high amounts of L1 across tasks, but particularly so in the text reconstruction and dictogloss tasks (i.e. 78% and 75% of the total number of words, respectively) and made use of their L1 most frequently for metacognitive talk. The analysis also revealed a task effect in the discourse functions fulfilled by the learners' L1, with the largest amount of L1 metatalk produced in the text reconstruction task, most L1 lexical searches in the jigsaw task, and most L1 use for task management in the joint composition task. Irrespective of the task type, the use of the L1 enabled the low proficiency EFL learners to perform tasks with L2 requirements beyond their L2 competence level. Azkarai and García Mayo (2015) further corroborated the relation between task type and L1 use in EFL peer interaction, as well as the impact of task modality (i.e. speaking-only tasks vs. speaking+writing tasks) on the amount and function of L1 use.

Learners' proficiency level has also been reported to affect their reliance on their L1 in foreign language peer interaction. DiCamilla and Antón (2012) found a proficiency effect on the amount, but not the range of functions, of L1 use in the oral interaction of 22 English-speaking learners of Spanish at an American university, carrying out a collaborative writing task. Beginner-level learners produced significantly more L1 than their advanced-level counterparts, relying on their mother tongue mainly for solving problems and discussing content. Advanced learners relied scarcely on their L1 in comparison to beginner-level learners but the L1 functions in their production were

similar to the ones in their weaker counterparts' interaction (i.e. solve problems, define the task, and create or discuss content).

Furthermore, the proficiency pairing of the learners seems to have an impact on learners' L1 use in L2 peer interaction. Storch and Aldosari (2010) analysed the amount and purpose of L1 use in the oral interaction of 36 EFL university students in Saudi Arabia, paired into matched high proficiency, matched low proficiency and mixed high/low proficiency dyads and performing both meaning-focused (i.e. jigsaw and composition) and form-focused (i.e. text editing) tasks. The authors found minimal rates of L1 use (i.e. 7% of the total number of words), irrespective of the proficiency pairing. The matched low-proficiency pairs produced more L1 words and L1-predominant/total turns than the other pairings, but only in the text editing task. For these learners, the L1 was an indispensable scaffolding for the completion of the task. The predominant function across task types and proficiency pairings was task management, followed by vocabulary deliberations. Differences between mixed and matched proficiency dyads with regard to their interactional patterns, though not specifically their L1 use, had already been identified by Gass and Varonis (1985) who found that mixed level dyads struggled more to communicate and, hence, negotiated more to overcome communicative breakdowns than matched level dyads. Iwashita (2001) also showed that mixed proficiency dyads interacted significantly more than learners in same level dyads but the effect of proficiency pairing was limited to the amount of modified output produced – low proficiency learners produced more modified output when working in mixed proficiency dyads, whereas high proficiency learners benefitted more from working with same level peers.

2.2 L1 use in child peer interaction

It is only recently that research has taken an interest in the role played by the L1 in scaffolding L2 interaction among young learners. The empirical evidence available to date on L1 use in child peer interaction comes, by and large, from foreign language contexts. L1 use in child peer interaction appears to be dependent on a series of individual factors such as age, motivation and gender. In a study of oral task-based interaction with 40 age- and proficiency-matched dyads of Spanish-speaking children (aged 8-11) learning EFL and EFL+Content and Language Integrated Learning (CLIL), García Mayo and Lázaro Ibarrola (2015) found that all learners made little use of their shared L1 in a picture-placement task (i.e. ranging between 1.6% and 9.2% of the total number of utterances), irrespective of proficiency level and instructional modality. Nonetheless, the older learners (aged 10-11) relied on their L1 more often than the younger learners (aged 8-9), possibly on account of a lack of engagement with the task. When used, the L1 had mostly a metacognitive function, enabling learners to organise and monitor the task, check goals and comprehension. Lázaro-Ibarrola and Azpilicueta-Martínez (2015) also identified low rates of L1 use (i.e. five instances) in the oral production of 16 low-proficiency Spanish L1 English L2 young learners (aged 7-8) during a guessing game, presumably due to instruction-enhanced motivation towards using English in tasks. As for gender, on the basis of oral data from 42 Spanish L1 English L2 children in 3rd (7-8 years old) and 4th (8-9 years old) grades of primary school carrying out a spot-the-differences task and organized into gender-matched and gender-mixed dyads, Azkarai and Imaz

Agirre (2017) showed that boys fell back on their L1 more often than girls, particularly older boys in 4th grade who worked in gender-matched dyads (i.e. 46% of the c-units produced).

Moreover, L1 use in child peer interaction has been found to vary with task type, in line with findings from adult interaction studies (Alegria de la Colina and García Mayo, 2009; Azkarai and García Mayo, 2015; Storch and Aldosari, 2010). Tognini and Oliver (2012) showed that Australian elementary and secondary school learners, interacting during lessons of French and Italian foreign language, preferred to use their L1 for task management purposes (e.g. assigning roles) and in relation to content (e.g. answering questions about a text), but carried out form-focused activities (e.g. L2 form written exercises) in the L2. Meaning-focused tasks (e.g. information gap tasks) were performed in a mix of L2 and L1. The authors considered that, in their particular context, the form-focused activities made limited linguistic demands on the learners, who felt confident enough to interact mostly in their L2, whereas the meaning-focused tasks had less predictable linguistic demands and pushed learners to rely on their L1 to scaffold their L2 production. Task repetition and familiarity with the task procedure also have an impact on the frequency and functions of L1 use. Analysing the interactional data from 42 Spanish primary school learners of EFL (aged 9-10) performing a spot-the-differences task in two modalities (i.e. exact task repetition and procedural task repetition) twice during three months, Azkarai and García Mayo (2017) found that L1 use was relatively low from the onset of the study in both groups (i.e. 36% and 28% respectively) and decreased with task repetition, irrespective of modality. Nonetheless, the exact task repetition group produced more L1 than the procedural repetition group at both testing times (also García Mayo and Imaz Agirre, 2016). There was also a significant increase in L1 confirmation checks and metacognitive talk from T1 to T2 in both task repetition modalities.

Very few studies have explored the longitudinal development of L1 use and its functions in child peer interaction in foreign language settings. García Mayo and Imaz Agirre (2017) analysed, among other variables, the use of the L1 over the span of a year in the oral interactions of 27 dyads of Spanish L1 English L2 children (aged 8-9 and 10-11 at the onset of the study), enrolled in two instructional modalities (i.e. EFL and EFL+CLIL) and performing two oral tasks (i.e. a guessing game and a picture placement task). Learners' exposure to the target language was of 5h/week in the case of the EFL group and 12h/week for the EFL+CLIL group. There was a clear tendency for older learners in both instructional modalities to rely on their L1 more frequently than their younger counterparts, at the two data collection times, in line with the age effect observed by García Mayo and Lázaro-Ibarrola (2015). The data also indicated that the amount of L1 use was dependent on the instructional modality, with EFL learners using their shared L1 significantly more than their EFL+CLIL counterparts, at all data collection times. For the authors, this could be related to the methodology used in the CLIL classes, very supportive of peer interaction in the L2. Thirdly, rates of L1 use were found to decrease with time in the EFL group, irrespective of the age of the children at the onset of the study. This decrease was not observed in the EFL+CLIL group, where learners may not have found the tasks motivating enough at the second testing time.

García Mayo and Hidalgo (2017) further analysed the longitudinal evolution of rates and functions of L1 use in the oral interactions of 32 young Spanish-speaking learners of EFL (ages 8-10), enrolled

in EFL-only instruction and EFL+CLIL, over a period of two consecutive academic years. Learners' exposure to the target language was similar to the one reported in García Mayo and Imaz Agirre (2017). All participants had a low-proficiency level and performed a picture placement task. In line with previous studies on child peer interaction, rates of L1 use were low (i.e. 11.9% of the corpus), irrespective of instructional modality and across data collection times. Learners mainly used their L1 to deal with vocabulary issues and for metacognitive talk. The data also indicated that the instructional modality had a significant impact on the amount of L1 use but only a mitigated impact on the type of function the L1 served in the interaction. The EFL-only learners produced significantly higher rates of L1 than their CLIL counterparts, at both data collection times, similar to what was observed by García Mayo and Imaz Agirre (2017). As for the L1 functions, while L1 for vocabulary deliberations was the dominant L1 function across instruction modalities, EFL-only learners made significantly more vocabulary deliberations than their CLIL counterparts at both data collection times, most likely on account of their lower proficiency than the CLIL group.

Overall, the studies available to date on L1 use in child peer interaction in foreign language contexts indicate the existence of several mediating factors that affect the amount of L1 and its functions, namely children's age, task, instructional modality, and time. Nevertheless, research remains scarce on its longitudinal evolution, notably with young learners in limited L2 exposure contexts, and is lacking altogether as regards the impact of proficiency pairing.

3 The Study

In this study, we explore the frequency and the functions of L1 use by EFL primary school learners during task-based peer interaction over the course of two years and analyse whether they might be dependent on time and proficiency pairing effects. To this purpose, oral production data was elicited twice through two peer interaction tasks with children paired up in mixed and matched proficiency dyads. The following two questions were entertained:

- (1) What is the amount of L1 use and what are its most frequently used functions during task-based child peer interaction at two different data collection times over the course of two years?
- (2) Do time and proficiency pairing affect EFL primary learners' L1 use and its functions during task-based child peer interaction?

On the basis of previous research on EFL child interaction, L1 use is predicted to be relatively low (Azkarai and García Mayo, 2017; García Mayo and Hidalgo, 2017; García Mayo and Imaz Agirre, 2017; García Mayo and Lázaro-Ibarrola, 2015; Lázaro-Ibarrola and Azpilicueta-Martínez, 2015). The most frequently used L1 function is expected to be that of vocabulary search or scaffolding production as well as task management (García Mayo and Hidalgo, 2017; Tognini and Oliver, 2012). Time effects are expected to be present on the general amount of L1 use and across the different L1 functions (García Mayo and Imaz Agirre, 2017). Proficiency pairing has not been

specifically studied in relation to L1 use in child peer interaction, but previous studies reveal that mixed dyads seem to show more difficulties when interacting in the L2 (Gass and Varonis, 1985) and tend to negotiate more (Iwashita, 2001) so they are predicted to resort to their L1 more often and with a greater variety of functions.

Participants

Forty bilingual Catalan/Spanish primary school children (21 male, 19 female) learning EFL in a very low exposure, low proficiency and poor input context participated in the study. They were 9-10 years old upon the first data collection and 11-12 at the end of the study (4th and 6th graders at the two data collection times). At 4th grade, they were receiving 2 hours per week of instructed EFL and a 45-minute session of Science CLIL (Content and Language Integrated Learning) per week. They had accumulated 300 hours of in-school exposure over five years, thus being a clear example of limited exposure to the target language within a prolonged, non-intensive EFL programme. At 6th grade, they were receiving 3 hours per week of instructed EFL and had accumulated a total of 510 hours of in-school exposure. The children were paired up in matched proficiency dyads (N=10 dyads) and mixed proficiency dyads (N=10 dyads). To do so, the teachers were asked to provide the research team with the learners' academic results in the English subject and their subjective impression of the learners' overall English competence. With this information, both teachers and researchers decided on which students would belong to a "high" group and which ones to a "low" group. Permission was not obtained to run a placement test in the school so proficiency differences were determined by English language academic achievement in school and teachers' perceptions.

Upon first data collection, a total of 16 out of 40 (40%) students were attending extracurricular EFL afternoon sessions. This percentage raised up to 53% (21 out of 40) students at 6th grade, although the majority of them had only started at the same year or the year before and the number of hours per week ranged from 1 to 2.5, thus keeping exposure low. The number of students attending extracurricular EFL sessions in each proficiency pair group was similar at both data collection times (i.e. 30% in matched dyads versus 50% in mixed dyads at 4th grade and 50% in matched dyads versus 55% in mixed dyads at 6th grade), and a Pearson chi square test was run to examine the relationship between attendance to extracurricular sessions and group belonging. Results at both data collection times revealed the two categorical variables were not related (χ^2 (1, N=40)=1.66, $p=0.19$; χ^2 (1, N=40)=0.10, $p=.752$) and therefore, it was concluded that extracurricular exposure would have a similar impact in both groups.

Instruments and procedures

The data was obtained through an oral open two-way task, namely a spot-the-differences task (Mackey, 2012) in which the learners, in pairs, were given 7 minutes to find as many differences as they could between their two different pictures by asking each other questions and providing descriptions of the pictures. No specific target number of differences was given, and this is why our spot-the-differences task is considered open. The two pictures displayed a beach with different weather conditions and children and adults doing different activities or wearing different

clothes (see Appendix). The researchers made sure the participants were generally familiar with the vocabulary to be used. The learners were taken to the meeting room next to their classroom in pairs and instructions were given in Catalan/Spanish to make sure they were properly understood. Before starting the task, the researchers would ask some brief personal questions in English. All the dyads performed the same tasks, with the same task materials and in the same order, two years later. Task input was kept the same at Time 1 and Time 2. It was done in English at both data collection times and the L1 was only used if the learners showed no understanding of the task. ¹All dyads, both mixed and matched proficiency, were kept the same from Time 1 to Time 2.

Data Analysis

The children's oral production was audio recorded and then transcribed using the CHAT conventions within the Child Language Data Exchange System (CHILDES) database (MacWhinney, 2000). The data was first analysed in relation to L1 instances and not L1 words, as the aim of the study was to examine how often within the interaction and to what purpose the children resorted to the L1 and not to exactly quantify the number of words produced in the L1. Percentages of L1 use were calculated against the number of turns in the task interaction for each dyad first and then in total. L1 instances ranged from one-word instances or phrases (e.g. *No, my bandera is color red*) to longer strings of words within a turn (e.g. *in your picture there's a there's a a boy hablando por teléfono?*) often depending on the purpose of L1 use.

A number of L1 functions were established in the analysis. Since the population under study displays very specific characteristics in terms of type and amount of input, the functions were established both deductively (i.e. on the basis of previous research with a similar analysis) (Alegria de la Colina and Garcia Mayo, 2009; Azkarai and Garcia Mayo, 2015; Storch and Aldosari, 2010; DiCamilla and Antón, 2012; Pladevall-Ballester and Vraciu, 2017, among others) and inductively (i.e. on the basis of the data from our learners, see Martin-Beltrán, Montoya-Ávila, García, Madigan Peercy, and Silverman (2019). L1 instances were classified into (a) self-directed lexical scaffolding, (b) private speech, (c) metacognitive, (e) task-related and (f) communicative scaffolding, which was further classified into lexical elicitation, meaning negotiation, continuation moves and validation. The categories of continuation moves and validation were established inductively. *Self-directed lexical scaffolding* was used by children when they did not know an L2 word or expression and simply used the L1 to fill that gap, as in (1):

¹ As one of the reviewers pointed out, using the same task materials could trigger a task repetition effect. Nevertheless, the two data collection times in our study were two years apart. At Time 2, children were asked if they remembered the task and they reported remembering the kind of task (i.e. finding differences) but not the pictures themselves. In any case, even if they had remembered the pictures, we believe this would not have had any effects because they were never given the English equivalents to the words they did not know at Time 1, so any differences in L1/L2 use can be attributable to time effects (i.e. proficiency development).

(1) CHB: And one person ehm swimming in the mar...ai, in the sea.

[sea][oops]

Private speech has often been used in previous research on L1 functions during L2 speech mainly for self-regulatory purposes, but also repetitions, fillers and opening and closing remarks (Alegria de la Colina and Garcia Mayo, 2009):

(2) CHA: no. a veure in your picture eh in your picture hi ha the man running?

[let's see]

[there is]

Metacognitive strategies were employed to refer to clarifications or misunderstandings on content and meaning of certain elements in the task, as in (3), where child B mentions his/her incapability of remembering a word:

(3) CHB: No em surt

[It doesn't come to my mind]

Task-related L1 use refers to task procedures or clarification of previous instructions, as in (4):

(4) CHA: et toca a tu, no?

[it's your turn, isn't it?]

Communicative scaffolding functions specifically refer to those L1 instances addressed to the other member of the dyad during interaction and in relation to eliciting a given lexical item, clarifying or negotiating meaning (Oliver, 1998), moving on to carry on with the task and confirming what the other dyad has just uttered. The following examples illustrate L1 instances of lexical elicitation (5), meaning negotiation (6), continuation moves (7) and validation (8):

(5) CHB: ah and you see a... bandera com es deia? [=to CHA]

[how did you say flag?]

(6) CHA: ehm this is running, no? corrent?

CHB: Yes. [running]

(7) CHA: Yes (.) in your paper there is a big cloud?

CHB: What?

CHA: Un núvol molt gran

[a very big cloud]

(8) CHA: This is playing with sand (.) ay, sand!

CHA: Sj, sand.

[yes]

The coding of number of turns, L1 instances and L1 functions was carried out by two researchers and an intraclass correlation coefficient (ICC) was conducted as a measure of interrater reliability. The ICC was .998 with a 95% confidence interval from .997 to .998 ($F(219)=863.779, p<.001$) for Time 1 and .998 with a 95% confidence interval from .998 to .999 ($F(219)=1276.926, p<.001$) at Time 2. A generalised linear mixed model was performed using SPSS statistical package with time and proficiency pairing as fixed factors and L1 instances and the different L1 functions as the dependent variables. Subject (i.e. dyads) was included as a random effect. The alpha level of the model was set at 0.05. These dependent variables were also compared among each other at the two collection times through a Friedman test and subsequent Wilcoxon signed-rank tests. The alpha levels in these two tests were also set at 0.05. Group means for the different variables were obtained as a result of the mean of each dyad's percentages. The following section will describe the results obtained.

4 Results

Our research questions addressed the amount of L1 use, the prevalence of L1 use functions and the effects of time, proficiency pairing and potential interactions between them on L1 use and its functions. Table 1 displays percentages of L1 use at Time 1 and Time 2 irrespective of proficiency pairing first, followed by time and proficiency pairing, which is also illustrated in Figure 1.

[Table 1 near here]

[Figure 1 near here]

As Table 1 illustrates, percentages of L1 use, as measured by L1 instances in relation to conversational turns, appear to be remarkably high at Time 1 and get considerably reduced in two years' time. Percentages of L1 instances are higher at T1 than at T2 and higher in mixed dyads than in matched dyads. Our statistical analysis shows that there is indeed a significant time effect ($F(1, 36) = 14.400, p = .001$) but no significant proficiency pairing effect. No interaction between the two factors was observed in this dependent variable.

As regards the prevalence of L1 functions at each data collection time, Table 2 below shows that L1 self-directed lexical scaffolding prevails over the rest of the functions at Time 1, followed by L1 use for communicative scaffolding purposes, L1 private speech, L1 use for metacognitive purposes and task-related L1 use. A Friedman test revealed significant differences among the percentages ($\chi^2 (4)= 58.032, p<.001$), with self-directed lexical scaffolding being significantly more widely used than the rest of the functions ($p< .05$) and L1 communicative scaffolding significantly more widely used than the rest of the functions ($p< .05$) except for self-directed lexical scaffolding.

At T2, L1 use for communicative scaffolding purposes prevails over the rest of the functions, followed by L1 private speech, self-directed lexical scaffolding, L1 use for metacognitive purposes and task-related L1 use. A Friedman test revealed significant differences among the percentages ($\chi^2 (4) = 34.663, p < .001$), with L1 communicative scaffolding being significantly more widely used than the rest of the functions ($p < .05$) and private speech significantly more widely used than L1 use for metacognitive purposes and task-related L1 use ($p < .05$). Self-directed lexical scaffolding was found to be significantly more widely used than task-related L1 use only ($p = .009$). Table 2² and Figure 2 illustrate the percentages of L1 use for each function at the two data collection times irrespective of proficiency pairing.

[Table 2 near here]

[Figure 2 near here]

Before exploring the effects of time and proficiency pairing on the different functions analysed, descriptive statistics of the mean percentages of L1 use with the different functions by proficiency pairing and time are presented in Tables 3 and 4.

[Table 2 near here]

[Table 3 near here]

L1 private speech displays a significant time effect, irrespective of proficiency pair ($F(1, 36) = 10.091, p = .003$) and with an increasing tendency, whereas L1 self-directed lexical scaffolding also displays a significant time effect but with a decreasing tendency ($F(1, 30) = 15.359, p < .001$). No significant time effects emerged in task-related and metacognitive L1 use and no significant proficiency pairing effects were found in any of the L1 functions examined.

L1 use with communicative scaffolding purposes also showed an increasing time effect ($F(1, 36) = 4.492, p = .041$), mainly due to the significant increase of L1 use for lexical elicitation purposes at T2 ($F(1, 36) = 4.682, p = .037$). L1 use for meaning negotiation purposes yielded a decreasing time effect ($F(1, 36) = 4.675, p = .037$) and a significant proficiency pairing*time interaction ($F(1, 36) = 5.321, p = .027$) by which mixed dyads produced higher percentages of L1 use for meaning negotiation purposes than matched dyads but only at T2 ($F(1, 36) = 5.606, p = .023$). No significant effects were found with respect to L1 continuation moves or L1 use for validation purposes. Figures 3 to 7 illustrate percentage means of the L1 functions analysed and according to the factors examined.

² Raw numbers of frequency of occurrence of L1 instances and number of turns are provided in Tables 2, 3 and 4 (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, so rounding effects are responsible for the slight differences.

[Figures 3, 4, 5, 6 and 7 near here]

In sum, decreasing significant time effects (irrespective of proficiency pairing) were found in general L1 use, L1 use for self-directed lexical scaffolding and L1 use for meaning negotiation purposes. Increasing significant time effects (irrespective of proficiency pairing) became evident in L1 private speech and L1 use for communicative scaffolding purposes, particularly within L1 use for lexical elicitation purposes. No proficiency pairing effects were observed in the data and interaction effects between proficiency pairing and time were only found in L1 use for meaning negotiation purposes with mixed dyads making more L1 use than matched dyads but only at T2.

5 Discussion

Our first research question explored the amount of L1 use in the children's oral production and its most frequently used functions at the two data collection times over the course of two years. Contrary to what was expected, the data show higher L1 use than the previous studies on child EFL interaction (Azkarai and García Mayo, 2017; Azkarai and Imaz Agirre 2017; García Mayo and Hidalgo, 2017; García Mayo and Imaz Agirre, 2017; García Mayo and Lázaro-Ibarrola, 2015; Lázaro-Ibarrola and Azpilicueta-Martínez, 2015), at T1 and T2, although L1 use decreased almost by half from T1 to T2. These higher levels of L1 use might be explained by the EFL setting where the study was conducted. The learners had accumulated a limited number of hours of exposure and were exposed to reduced weekly input over the two years. Most importantly and as reported by the school teachers, they had only had occasional interaction opportunities through classroom tasks. The children might have shown more willingness and ability to use the target language in peer interaction, had this type of communicative activity been used more often in their EFL class.

One of the consequences of these poor proficiency levels and lack of readiness to use the target language is reflected in the most frequent purpose of L1 use. At T1, children most often resorted to the L1 for self-directed lexical scaffolding purposes (i.e. 53.37%) when they did not know L2 words or expressions and used the L1 to fill that gap. This was followed by L1 use for communicative scaffolding purposes (i.e. aiding interaction between the members of the dyad) but to a lesser extent. The least common functions were L1 private speech, L1 use for metacognitive purposes and task-related L1 use. Previous research on meaning-focused tasks with child EFL learners had mainly found L1 use for task management and communicative scaffolding purposes, particularly vocabulary searches or meaning negotiation (García Mayo and Hidalgo, 2017 and García Mayo and Lázaro-Ibarrola, 2015), although Tognini and Oliver (2012) had also found a similar L1 use for lexical scaffolding purposes (as well as task management and communicative exchanges) in two-way tasks due to the children's inability to make a sustained use of the L2 during tasks. The foreign language learning setting in Tognini and Oliver (2012) bears strong resemblance to the learners in the present study in terms of accumulated exposure and

weekly input, which would explain the children's low proficiency levels and their inability to use only the target language during task-based interaction.

Yet, at T2, L1 use for self-directed lexical scaffolding purposes sharply fell (i.e. 17.36%) and the most common L1 function was that of communicative scaffolding, which indicates that, despite being more widely used in our study than in previous research, the L1 was progressively giving way to the L2. At T2, children seemed to start keeping the L1 as a resort for communicative exchange purposes (i.e. mainly lexical elicitation and meaning negotiation) as in other previous studies and did not need to use it as a prop for individual oral production. The exact repetition of the task may also have contributed to the lower L1 rates at T2 on account of learners' familiarity with the task (Azkarai and García Mayo, 2017), though the 2-year span between the data collections was relatively long to minimise this impact. It is worth noting that L1 private speech was the second most widely used L1 function at T2, which might indicate that, as they grow older, learners display more reflection on their task performance and tend to use fillers or personal remarks in their L1, which they are not able to produce in the target language yet. The transition from the L1 to the L2 as a mediational tool for one's cognitive system requires long-term and intensive exposure to the target language, as well as sustained participation in L2 communicative practices (Pavlenko and Lantolf, 2000; DiCamilla and Antón, 2012), conditions which do not apply to the children in our study.

Our second research question analysed the effects of time and proficiency pairing as well as their potential interaction on L1 use and its functions. As noted above, we clearly found significant time effects, as expected, whereby general L1 use, L1 use for self-directed lexical scaffolding and L1 use for meaning negotiation purposes significantly decreased from T1 to T2 as proficiency and age increased and on account of presumably larger L2 resources and higher familiarity with the task type at T2. These time effects occurred irrespective of proficiency pairing and are also present in the few previous longitudinal studies conducted with young learners in foreign language settings (García Mayo and Imaz Agirre, 2017) and in studies where different age groups are compared with respect to their L1 use (García Mayo and Lázaro-Ibarrola, 2015). However, these decreasing time effects were not found across all the L1 functions analysed. Although general L1 use significantly decreased, increasing time effects were found in L1 private speech, as noted above, and L1 use for communicative scaffolding purposes, particularly within L1 use for lexical elicitation purposes. As their proficiency increased, learners seemed to be willing to interact more and realised that their partner within the dyad might be of help in accomplishing the task. This was made evident as L1 communicative scaffolding increased while self-directed lexical scaffolding decreased by T2, which is in line with L1 use for communicative exchange purposes in previous research with similar populations (García Mayo and Hidalgo, 2017; García Mayo and Lázaro-Ibarrola, 2015).

As regards proficiency pairing effects irrespective of time, they were not found in the dataset. Proficiency pairing has not been specifically studied in relation to L1 use in child peer interaction. Yet, previous research on adult learners reveals that mixed dyads tend to show more difficulties when interacting in the L2 (Gass and Varonis, 1985) and where amount of L1 use and proficiency pairing have been explored, matched low proficiency dyads produce more L1 words and L1

total/predominant turns than the matched high and mixed proficiency dyads (Storch and Aldosari, 2010). In our study, differences in proficiency between high and low proficiency learners may not have been large enough to trigger proficiency pairing effects.

With regard to the potential interaction effects between time and proficiency pairing in relation to L1 use and the functions we explored, general L1 use and most of the L1 functions displayed no interaction between time and proficiency pairing. The only interaction effects were found in L1 use for meaning negotiation purposes with mixed dyads making more L1 use than matched dyads but only at T2. According to previous research, mixed dyads deal with more communicative breakdowns and, as a result, tend to negotiate for meaning more often (Gass and Varonis, 1985; Iwashita, 2001). The mixed dyads in our study appear to enter this trend at the end of the study (age 11-12), when children are more analytic in their approach to language learning and show a growing level of metalinguistic awareness (Pinter, 2006). However, unlike previous studies, the meaning negotiation generated by our mixed dyads occurred predominantly in L1, possibly on account of the fact that the high proficiency learner in the mixed dyad might not have had enough resources to solve the communicative breakdowns with their low proficiency partner in the L2. A certain proficiency threshold needs to be reached for children to engage in communicative practices such as meaning negotiation in the L2 (Lázaro-Ibarrola and Azpilicueta-Martínez, 2015).

6 Conclusions

The main goal of this study was to explore L1 use and its functions by EFL primary school learners in relation to time and proficiency pairing. Our data show that time but not proficiency pairing affects the amount and functions of learners' L1 use, with greater need to use the L1 for lexical scaffolding at T1 and more L1 use for communicative purposes as age and proficiency increase. Additionally, there is hardly any interaction between time and proficiency pairing with regard to L1 use and its functions. We believe these findings have several implications for the EFL classroom practice in primary education. Firstly, learners' use of their L1 in task-based peer interaction, a common concern among L2 practitioners (Carless, 2008), may undergo a decrease if this type of communicative activity is sustained in time, irrespective of the proficiency pairing of the children. Moreover, while proficiency pairing does not appear to have an impact on young learners' L1 use at low proficiency levels in a spot-the-differences task, varying the composition of the pairings could be envisaged with older children in the upper primary grades in order to provide them with different contexts of L1 and L2 use. More specifically, mixed proficiency pairings might be desirable to generate translanguaging practices in order to co-construct meaning and language and/or scaffold L2 production, whereas matched proficiency pairings could be of interest if the goal is to foster L2 fluency as they tend to lead to collaborative relations between the learners (Storch and Aldosari, 2012; García and Wei, 2014).

Our study provides additional empirical evidence on the relevance of young learners' L1 use in the development of their communicative competence in EFL. Our data are revealing of how the learners draw on their L1 and L2 repertoires in order to complete the different communicative tasks in what can be considered a display of their plurilingual competence (Council of Europe,

2002; Coste, Moore and Zarate, 2009). From this perspective, it seems to us that peer interaction represents a valuable resource for plurilingual pedagogies (Lin, 2013) in foreign language classrooms because it creates the need for learners to mobilise their different linguistic systems in order to achieve their communicative purpose.

Several limitations need to be acknowledged. The interactions analysed in this study were elicited in laboratory conditions and, as such, may not be fully indicative of the intricacies of actual classroom peer interaction. Moreover, as already mentioned, we were not able to establish the proficiency levels of the participants by means of a standardised placement test and had to rely on other, less objective proficiency measures. We are also aware that L1 instance is not an exact measure of L1 use as it does not account for the length of these instances, which range from one word to multiword phrases in our data.

Despite these limitations, our study provides an insight into the longitudinal development of L1 use and functions in task-based peer interaction with primary school EFL learners in a limited L2 exposure context, which not only furthers our understanding of L2 learning but, we hope, also encourages classroom practitioners to promote peer interaction among young learners through L2 communicative tasks. Further research should corroborate our findings with a larger corpus of data, collected in classroom conditions, and explore the potential impact of more qualitative factors, such as the patterns of interaction between the members of the dyads (Storch and Aldosari, 2012), on the amount and communicative purpose of learners' L1 use in EFL communicative tasks.

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Appendix



Pictures adapted from http://community.fansshare.com/pic25/w/spot-the-difference/1200/23108_spot_the_difference.jpg