

Nudging young ESL writers

Engaging linguistic assistance and peer interaction in L2 narrative writing at the upper primary school level in Brunei Darussalam



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**Thesis submitted to the University of Oxford
for the degree of Doctor of Philosophy in Education**

Trinity Term, 2013

Abstract

Motivated primarily by a cognitive approach, with consideration of interactional processes from a sociocultural perspective, the present study examined the use of linguistic assistance and peer interaction to facilitate second language (L2) writing of young ESL learners. A total of 257 Year 5 children (age 10) from twelve intact classes (from six different schools) took part in this eight-week intervention-based study. Using a quasi-experimental design, the classes were randomly assigned to one of three treatment groups or the control group. Pretests, interim tests, immediate posttests and delayed posttests were administered. As the study concerned both the processes and products of L2 development, peer interaction and children's written production were taken as the two primary sources of data for this study.

For the written production, four criteria were used to rate learners' writings: *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling* and *Implicit grammar*. Partial correlation was employed to examine if there were any statistical relationships between treatment and learners' written performance while controlling for prior attainment. Results show that the provision of enhanced and basic linguistic assistance may have a positive influence on only certain aspects of L2 writing, while opportunities for peer interaction does not appear to have an impact on learners' L2 performance.

For peer interaction, a subset of 60 learners were selected from the two treatment groups which received basic and enhanced linguistic assistance, to compare their dialogic performance. Based on quantitative analyses of their recorded interactions, the findings suggest that the provision of varying degrees of linguistic assistance may affect, not the content of peer discussions, but how peer assistance is given during task. The results also show that through the provision of linguistic assistance, peer interaction mediates the participants' performance on *Quality of ideas*, *Story shape and structure* and *Implicit grammar* in their subsequent individual writing.

Acknowledgements

This thesis was borne out of a simple aspiration to help young learners with limited linguistic proficiency to enhance their language performance, so that they too can feel, and be, academically successful. Along the way, in developing the thesis, I have learnt so much from so many people, and I am deeply indebted to them for their kindness, patience and generosity shown to me throughout this long, yet exciting, process.

First and foremost, my deepest gratitude to the Government of Negara Brunei Darussalam, Universiti Brunei Darussalam and the Ministry of Education for giving me this invaluable opportunity to pursue my study, and for the financial and other support rendered.

I have been immensely privileged to have Dr. Catherine Walter as my supervisor. She has been my source of inspiration and guidance from the very start, and her dedication and unrelenting support have helped me throughout this thesis. Her analytical, thought-provoking discussions and feedback have always propelled me to explore each issue critically, just as she intended. Most importantly, she believes in me and in my work, and for that, I truly appreciate her. To Prof. Ingrid Lunt and Prof. Ernesto Macaro, my thanks for their unfailing encouragement and advice. Also, a special mention of thanks to John Fletcher for his tremendous patience in helping me get through the statistics ordeal.

I would like to thank Dr. Lim Siew Bee, who has been my constant pillar of strength. She has always been there for me, be it to provide a shoulder for me to cry on, or to listen to my thinking processes and offer me insightful comments. I am also grateful to Dr. James Bourke, who has always kept faith in me, even when I doubted myself. My heartfelt appreciation too goes to Uncle Tunku Mahmood Shah for always raising the bar and believing that I can achieve those goals. Also, there was a group of friends who provided unconditional emotional support at different stages of my work: Dr. Huraini, Laura, Nikki, WanYing, ChangDa, Manzil, Najla, Jenny, Gerry and Angie. I don't know how I would have survived the process without them.

I am also eternally grateful for the kind cooperation and assistance extended to me by my friends and teachers in Brunei Darussalam, without which this study would not have been possible: Julia Nabila, Hajah Haslinda, Hajah Norhani, Anvilia Imelda, Chrissie, Md. Hasrul, Maretessa, Mariam, Ramona, Ruhaiani, YenYen, Dk. Hajah Siti Nasrah and KokKeng. Special thanks also go to Dzulbaharin, Lulu, Jessica and Munirah, who so generously gave their time when I needed their help. In addition, I am deeply indebted to all the wonderful children who participated in the study.

Finally, to my mum for all the sacrifices she has made, to my sister, Julia Nabila Shak, for her unconditional love and faith in me, to my brother-in-law, Md. Radzuan, for his consistent support and encouragement, and to my baby niece, Rana Aqila, for her endearing smiles, I thank them from the bottom of my heart.

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CHAPTER 1

INTRODUCTION

1.1 Introduction: Motivation for the present study

Brunei Darussalam is fascinating in terms of the linguistic context of its education system. While Brunei Malay, or *Bahasa Brunei*, is the mother tongue of the demographic majority (Clynes, 2001; Hjh Fatimah, 1994; Kosonen, 2005), it is Standard Malay, or *Bahasa Melayu*, the official language of the country, which is used in formal instruction in schools. Although they are mutually intelligible, each language has its own set of distinctive vocabulary (of both function and content words), phonological features and syntactic patterns (Martin & Poedjosoedarmo, 1996). What this means for the vast majority of Bruneian children entering formal education in Year 1 (age 6) is that they have to cope with a language which is not the one spoken at home. In addition, under the bilingual education policy, English is taught as a second language in all schools from Year 1 (Government of Brunei, 1985). English is also the medium of instruction for several core subjects such as Mathematics and Science. In other words, children are not only expected to learn a new second language that is typologically distant from that of their home language, but also to learn *in* that language to gain access to academic content. Yet for many, their main exposure to and use of English is confined to classroom lessons. This limited experience with English as a second language (ESL) means that there is greater learner dependence on contexts of language use within classroom discourse communities to build language competence. Given that classes tend to follow a common national syllabus (Curriculum Development Department, 1995), it is, therefore, clear that high priority should be given to ESL instructional materials to develop the linguistic and communicative competence of learners in both spoken and written English.

The impetus for the present thesis has stemmed from concerns about Bruneian children's showing persistent weaknesses in their second language (L2) English performance, in particular

in their control of the written language. According to Brunei's recently implemented National Education System for the 21st Century (SPN21) curriculum (Ministry of Education, 2009), the development of literacy and communication skills in learners has been identified as a major priority in the teaching of languages, and this signals, amongst other things, a need to improve learners' writing performance. The present study was designed in response to this need. Its key intention is to examine how young Bruneian ESL learners can be assisted to perform at a higher level of competence in their use of the target language during a narrative writing task. To do this, the study has employed the use of linguistic assistance in picture narration tasks and peer collaboration via dialogic interaction to support learner written production in meaningful situations.

Linguistic assistance, operationalized in the present study as written linguistic support, is designed to enable the optimization of learner participation in tasks where the language required is beyond learners' current level of proficiency. In this way, the study has examined how the provision of varying degrees of linguistic assistance may influence different features of the written output as young ESL learners cope with the cognitive complexity of an L2 narrative writing task. Therefore, I will use *linguistic assistance* in this study to refer to a list of words, expressions or paragraphs of text given to learners in a task, in order to help them express their ideas in the target language as they engage in negotiated interaction. Its aim is to allow learners to select what is most appropriate to their needs from the linguistic support offered to them, and in this way, it builds on their existing resources and enables appropriate meaningful discourse within a communicative context.

A number of studies have looked at the effects of providing contextual support during tasks on learners' L2 performance. For example, Robinson's (1995) study compared learners' production of a narrative with the help of a picture strip and those without the pictorial support; and Skehan and Foster's (1999) study required learners to view a video and tell the story. However, these and other similar studies were not looking at linguistic assistance. A study which included an approach to linguistic assistance, by Swain and Lapkin (2001), compared the effects of using

pictorial support in an information gap with learner-produced written support (key words written by learners themselves as they listened to a text dictated to them) in a dictogloss task. Given the nature of a dictogloss task, however, which requires learners to perform the triple task of speedily taking down key words during a listening activity, accuracy notwithstanding (they are not shown the written text); trying to remember the content of the text; and working out the targeted grammatical structure(s) when reconstructing the text, it may be difficult to consider the words written by the learners as support, as these words are not built into the task intentionally to ease the communicative burden on learners in production of the L2. There is still a paucity of research on how written linguistic support impacts L2 learner interaction and production, and whether such linguistic assistance is useful for L2 learning.

Tasks that employ peer collaboration via dialogic interaction, on the other hand, have been frequently researched in the field of second language acquisition ever since the use of communicative tasks became a prominent trend in ESL pedagogy more than three decades ago. The underlying theoretical position for the use of such tasks in ESL pedagogy is that interaction is fundamental to L2 acquisition. Indeed, there is increasing empirical evidence to show that interaction facilitates the acquisition of lexis and grammar of the target language when learners are engaged in negotiations (Keck, Iberri-Shea, Tracy-Ventura, & Wa-Mbaleka, 2006; Mackey & Goo, 2007). Long (1983, 1996), in his Interaction Hypothesis, posits that:

... negotiation for meaning, and especially negotiation work that triggers interactional adjustments by the NS [native speaker] or more competent interlocutor, facilitates acquisition because it connects input, internal learner capacities, particularly selective attention, and output in productive ways. (Long, 1996, pp. 451-452)

In this view, interaction is regarded as an essential means by which learners obtain linguistic data, and it is through interaction that learners' attention may be directed to the correctness or incorrectness of their knowledge of the target language in their output. The constructs of input, interaction and output and their roles in L2 learning will be discussed in Sections 2.5 and 2.6 of Chapter 2. However, at this point what needs to be highlighted is that the line of research which has demonstrated the facilitative role of interaction is, by and large, focused on studies that

examined conversational exchanges between native speakers (NSs) and non-native speakers (NNSs) and investigated how input from NSs forms the basis for the development of language for NNSs (e.g., Gass & Varonis, 1994; Lyster & Izquierdo, 2009; Mackey, 1999; Mackey & Oliver, 2002; Nassaji, 2009). Framed within the cognitive paradigm, many of these studies have reported interactions which involved NSs and NNSs performing communicative tasks; their findings have revealed how interactions offer NNSs opportunities to obtain modified input, get feedback on production and generate modified output, in order to make their utterances more comprehensible to NSs. In short, there are opportunities for a transfer of knowledge between NSs and NNSs as they engage in meaning negotiation. Even studies that looked at NNS-NNS interaction using the cognitive approach have based their findings on learners obtaining input from more proficient interlocutors (e.g., Adams, 2007; Fernández Dobao, 2012a; Fernandez Garcia, 2007; Kowal & Swain, 1994). This has two significant implications for interaction research:

- (i) L2 learners need exposure to *positive evidence*, or “information about what is possible within a language” (Gass & Mackey, 2007, p. 177), which, in the abovementioned studies, was provided by NSs or more proficient NNSs. Regarded by Gass (2003) as a necessary requirement for L2 learning, positive evidence includes well-formed sentences in the spoken or written input, and is often perceived as comprising models from the language system to be learnt. Through positive evidence, learners receive direct information about the appropriate and accurate use of the target language from which they can formulate their own linguistic hypotheses; and
- (ii) learners need a conversational platform for obtaining *negative evidence*, or “the type of information that is provided to learners concerning the incorrectness of an utterance” (Gass, 2003, p. 225), so that they can modify their output to make their message more comprehensible to their interlocutors. Negative evidence may occur either pre-emptively (where attention is oriented to a linguistic form perceived to be problematic), or in response to an actual non-targetlike utterance (where attention is given in the form of

corrective feedback). It may be presented to learners as explicit or implicit information about the ungrammaticality of their production. Long (1996) considers negative evidence useful and “essential for learning certain specifiable L1-L2 contrasts” (p. 414) and Gass (2003, p. 241) regards it as necessary for L2 learning because through it, learners can discover the limits of the language system. In this way, when learners’ attention is drawn to specific features and the linguistic problems are highlighted during negotiation, learners may modify their production and restructure their hypotheses.

Another important point is that evidence of learning based on documentation of negotiation for meaning in second language acquisition interaction research has had a tendency to focus on occurrence and frequency of negotiation strategies (e.g., comprehension checks, clarification requests, confirmation checks, repetition) and linguistic modifications (e.g., lexical and/or grammatical features) made by individual learners when there is a communication breakdown. These measures are used because interaction research framed within the cognitive paradigm is derived mainly from studies involving NSs and NNSs, and thus the data collected reflect the interactional processes that occur in a typical NS-NNS interaction, where adjustments and modifications are made by the NSs to render the language comprehensible for NNSs. Therefore, this results in a rather restricted conceptualization of L2 learning, and does not include L2 learning that may emerge from a NNS learner-learner interaction, as in the case of learners in a Bruneian primary classroom.

Notably, negotiation for meaning is not the only type of interaction in which learners provide and accept help in order to learn. As pointed out by Pica (1994), Ellis (1999) and Swain and Lapkin (1998), not all interactions that lead to learning necessarily emerge from communication breakdown or lack of message comprehensibility. Several studies which have investigated the nature of peer interaction from a sociocultural perspective have found that learners can, through dialogic discussion, co-construct linguistic knowledge that is beyond the capability of individuals, and assist each other to achieve a higher level of performance (Donato, 1994; Ohta, 2000, 2001; Swain & Lapkin, 1998). Swain (2000) characterises one such type of interaction that

involves joint construction of knowledge as *collaborative dialogue*. A discussion of this construct follows in Section 2.6.3; but briefly, *collaborative dialogue* refers to dialogue in which learners talk through their linguistic problems and build their L2 knowledge together. Here, learners' focus on language features is not necessarily a consequence of difficulties in message comprehensibility; instead, their discussion may be based on mutual interest or shared desire to produce higher quality output.

In numerous studies, collaborative dialogue has been operationalized as *language-related episodes*, to represent language learning in progress (e.g., Fernández Dobao, 2012a; Lapkin, Swain, & Smith, 2002; McDonough & Sunitham, 2009; Shekary & Tahririan, 2006; Zeng & Takatsuka, 2009). A *language-related episode* is defined as “any part of a dialogue where students talk about the language they are producing, question their language use, or other- or self-correct their language production” (Swain, 2001, p. 286). Here, peer interaction is examined not merely as a display of knowledge (or input leading to output), but as an inter-mental process, i.e., a process in which knowledge is jointly constructed between learners through social interaction. Although research related to collaborative dialogue has tended to adopt a sociocultural approach, it is the contention of this thesis that the construct of dialogic knowledge construction is complementary to the cognitive perspective of language learning and that the investigation into this type of interaction can be framed within both cognitive and sociocultural paradigms through the use of language-related episodes as a metric to explore language learning processes in peer-assisted performance (this point is further discussed in Section 2.6.3).

Given an ESL landscape in Bruneian primary classrooms, where it is not often that learners have the opportunity to interact with English NSs in their English language lessons (a point I return to in Section 1.2 *Context of the study*), it is difficult to see how unmediated peer interaction during task performance can reliably generate input for the learners to learn from one another, or how it can mediate joint construction of L2 knowledge between learners if their level of L2 proficiency progresses at similar rates. To overcome this constraint, ESL learners with a limited linguistic repertoire can be given additional assistance, in order for them to participate successfully in a

communicative task where the language required is beyond their current level of proficiency. The present study was motivated by the need to find out whether young ESL learners, without the availability of input from NSs (and with limited access to the language teacher, considering the number of learners per classroom), could be assisted by means of written linguistic assistance to perform at a higher level of competence in an L2 writing task.

Importantly, in this study the theoretical basis for the use of collaborative narrative writing tasks with linguistic assistance and for the investigation of whether and how these tasks achieve their aim is rooted mainly in a cognitive approach. The cognitive paradigm offers insights into how a learner processes linguistic data and utilizes his or her cognitive abilities to develop language competence. The cognitive perspective on writing, for instance, emphasizes the allocation of attentional and memory resources to various aspects of text production during the composing process. Limited cognitive resources may be influenced by the intentional manipulation of the complexity of task performance (Robinson, 2001a; Skehan, 1998). To this end, the study examined the relationship between task complexity (the provision of varying degrees of linguistic assistance) and the L2 written performance of young learners. Here, cognitive theories provide the analytical lens for understanding the psychological development of young ESL learners.

Equally important is the focus of the present study on peer interaction. Given the problem of young ESL learners with limited proficiency providing each other with appropriate and accurate input that can be utilised to develop higher levels of L2 performance during peer interaction, the study has chosen to examine the influence of learners who are supported by written linguistic assistance offering peer assistance to each other during collaborative dialogue. The examination of learner talk, here, enables insights into how learners use language to discuss, analyse and offer possible solutions to each other when they notice problematic linguistic forms or test their hypotheses about these forms during tasks. Investigation into peer interaction, then, is motivated by both cognitive and sociocultural approaches. The integration of the two theoretical frameworks flows from the fact that the construction of linguistic knowledge in this study is seen

as both a cognitive and a social process. Whereas the cognitive-interactional approach focuses on what happens when individuals process linguistic data during negotiated interaction, the sociocultural theory of mind holds that cognition and knowledge are constructed through social interaction. Based on the work of Vygotsky (1978, 1986), the sociocultural approach, like the second language acquisition cognitive approach, emphasizes the fundamental role that interaction plays in language development, but its position is that the learner first performs a task with the assistance of another person, and through the process of meaningful social interaction between the learner and the other person, exchanges become a resource for the learner, which, if occurring within his or her zone of proximal development, is then internalized. A learner's zone of proximal development refers to the range between his or her current ability to solve a linguistic problem independently and the ability to solve the problem with assistance (Vygotsky, 1978). It is crucial that the dialogic assistance that learners receive is set within their zone of proximal development. If the assistance provided to learners is insufficient to address a problem (i.e., the problem remains too difficult for the learners), then they will be unable to relate the assistance to the problem, and may either seek other sources of assistance or revert to their existing interlanguage, to support their thinking about a satisfactory solution. Conversely, if the assistance offered coincides with the learners' current level of development (i.e., the part of the problem perceived by the learners as more difficult is not addressed), the learners will likewise be unable to effectively appropriate the assistance to advance their thinking, since they already possess the knowledge. Finally, where the assistance provided to learners is too far beyond the zone of proximal development to be helpful (i.e., the learners have not yet developed their knowledge sufficiently to be able to benefit from the help rendered), then they will be unable to coordinate their ideas or knowledge about the problem with the proffered assistance in order to achieve further progress. However, when the assistance is well targeted, the learners become progressively able to perform the task unaided. The extension of this approach to the present study views interaction as dialogic collaboration between learners, and its emphasis is on how language is used by learners during an interaction to co-construct knowledge. With dyadic collaborative dialogue operationalized as language-related episodes, the present study not only

examines the impact of collaborative dialogue on various features of L2 narrative writing of young ESL learners, but also investigates whether it mediates the relationship between the provision of linguistic assistance and L2 written performance.

It is clear that an expansion of approach to include both cognitive and sociocultural perspectives is relevant to and appropriate for the L2 learning environment in the present study. As Watson-Gegeo and Nielson (2003) put it, “Cognition *originates* in social interaction” (p. 156). Lantolf and Thorne (2006) too point out that sociocultural theory is essentially not about social or cultural aspects of learning, but is “a theory of mind” (p. 1), i.e., a psycholinguistic theory. In addition, Duff (2007) has argued convincingly that a convergence of research from the two theoretical strands will help to arrive at a better understanding of learner L2 developmental processes in a variety of learning contexts. With this in mind, interactional data for the present study were analysed and interpreted through the lens of cognitive, combined with sociocultural, views.

This introductory section has outlined the motivation for the present study. Three points have been discussed. First, the study was motivated by the persistent weaknesses that young Bruneian learners display in their L2 writing at the upper primary school level, and in line with the recently implemented national education system, the study thus explored the ways in which the written performance of ESL learners could be facilitated. Second, there is a paucity of research on the how written linguistic assistance can be harnessed to develop the writings of young learners, and this study attempts to address that gap. Third, given the problems involved in learner interaction providing input that can be used to develop L2 proficiency, the study proposes to investigate the impact of collaborative dialogue, supported by written input, on L2 writing; and this investigation is motivated by both cognitive and sociocultural approaches and probed through the analysis of language-related episodes.

1.2 Context of the study

Brunei Darussalam is a small country situated on the north coast of the island of Borneo in Southeast Asia. It has a population of 393 372 (2011 census) (Department of Statistics & Department of Economic Planning and Development, 2011). The official language of the country is Standard Malay, or *Bahasa Melayu*, which differs quite distinctively from Brunei Malay, or *Bahasa Brunei*, a dialect of the Malay language (Martin & Poedjosoedarmo, 1996; Nothofer, 1991). It is Brunei Malay, the local variety of Standard Malay, which is the lingua franca of the country. English, although not an official language in Brunei Darussalam, also enjoys a place of recognition, in particular in its role as an academic language.

Since the introduction of a bilingual education system (locally known as *Dwibahasa*) in 1985 (Government of Brunei, 1985), English as a second language has been a compulsory subject in all schools from Year 1 (age 6). Until 2008, all subjects (except English) in Years 1 to 3 (ages 6-8) were taught in Malay. It was only in Year 4 (age 9) that English, in addition to being taught as a subject, also became the medium of instruction for several core subjects such as Mathematics, Science and Geography. At present, the education system in Brunei Darussalam is undergoing a major reform with the introduction of SPN21, or *Sistem Pendidikan Negara Abad ke-21* (National Education System for the 21st Century) (Ministry of Education, 2009). Under SPN21, starting in Year 1, Bruneian children not only learn English as a subject, but they also learn Mathematics and Science in English. Subjects such as Islamic Religious Knowledge, Physical Education and Arts and Handicrafts are taught in Malay. In Year 4, an additional subject, that is, Social Studies, is taught through the medium of English. What this signifies for young Bruneian ESL learners, faced with masses of text written in English at the upper primary school level, is the need to attain a certain level of L2 linguistic and communicative competence, in order to be able to cope with the demands of their studies. Furthermore, since assessment is in the written form, the ability of the children to master written English determines their progression from primary through secondary to higher education.

In spite of the amount of ESL instruction allocated for learners at the primary school level, Bruneian children continue to show persistent weaknesses in their control of English written language. Evidence of this predicament came to light in 2007, when the Australian Council for Educational Research (ACER) was commissioned by the Brunei Darussalam Ministry of Education to conduct a national assessment study to calibrate the performance level of Bruneian children in English language (specifically, reading and writing) and Mathematics. As a result, all Brunei Government school students in Years 4, 6 and 8, comprising a total of 4547, 4629 and 6239 children respectively, took part in the 2008 National Study of Student Competencies in Mathematics and English (NSSCME). Anderson (2008) reports ACER findings on the overall writing ability of Year 6 students, showing that approximately 15 per cent of the learners were in Bands 1, 2 and 3, i.e., they were still learning to write a few common words and their attempts at putting them in simple or compound clauses were mainly incorrect. Another 18 per cent were in Band 4, i.e., they could write a few simple, common words and construct isolated simple clauses, but had difficulty in putting them in a sequence of simple sentences accurately. Approximately 44 per cent of the children were in Band 5, i.e., they were able to use a range of common words to write simple, predictable stories; while the remaining 23 per cent were in Band 6 or higher. These were children who were about to sit a state examination known as *Penilaian Sekolah Rendah* (Primary School Assessment) in which English was one of the compulsory subjects that they needed to pass, in order to be promoted to the secondary level. According to the *Penilaian Sekolah Rendah* marking scheme provided by the Examination Department (2001), in order to qualify as a “good” piece of writing, the narrative composition needs to be “mostly written in complete sentences. There may be a few grammatical or spelling error[s], but these do not affect comprehension” (p. 5). Yet, as shown in the ACER report, approximately one third of Year 6 children were performing below par in narrative writing while another 44 per cent reached the barely essential performance level to use the target language accurately, in order to express their intended meaning in written form.

As for the grammatical component of writing, ACER revealed that approximately 36 per cent of the 4629 Year 6 children who took part in the study were in Band 4 or lower. Grammar was scored according to learners' control of sentence construction (to demonstrate clarity and completeness) and their use of verb tense and form, connective devices and punctuation. The findings thus indicate that about a third of Bruneian Year 6 learners were experiencing difficulty in the construction of simple or compound clauses. There were many verb tense and form errors and the use of connective devices and punctuation were virtually non-existent. The 40 per cent of the participants who were in Band 5 wrote short, simple sentences or run-on simple sentences with little variety. Their use of verb tense and form were often found to be incorrect and there were limited attempts to connect ideas using connective devices. Results from the ACER study clearly reflect major gaps in Year 6 children's L2 acquisition and control of many aspects of grammar.

The current method for teaching English in the Brunei primary schools revolves around the Reading and Language Acquisition (RELA) Approach (Curriculum Development Department, 1995), which aims to develop communicative proficiency through the reading process. Introduced to the upper primary classes (Years 4, 5 and 6, ages 9-11) in 1992, the RELA programme involves children in extensive reading and comprehension strategies like guided reading and KWL (K-what we already Know about a topic, W- what we Want to know about the topic, and L-what we have Learned from the reading). In 1998 the Primary English book for Brunei Darussalam (PEBD) (Curriculum Development Department, 1997) was introduced to the upper primary classes, and process writing was listed as one of the components for teaching writing to children. (The process approach had already been mandated for use by all English language teachers since its introduction in 1993.) The process approach is what White and Arndt (1991) call an 'enabling approach', where learners are expected to discover for themselves, in the course of writing, the appropriate form and manner to present their intended message. This approach is writer-oriented, and there is great emphasis on audience and purpose. Developed from the original planning-translating-reviewing model established by Flower and Hayes (1981),

the process approach views writing as a non-linear, exploratory and generative process. Writers are expected to reassess and revise their plan, reread their text, or redraft their work, and to be able to do this recursively. The Curriculum Development Department (1999), linked to PEBD, outlines the stages involved in process writing as planning/prewriting, drafting, polishing the draft through conferencing, writing a redraft, editing and publishing the copy. Grammar instruction is also prominent in the thematic units of PEBD. Grammar instruction often entails isolation or extraction of linguistic features from context and includes the practising of fixed expressions (through functional drills) as well as language manipulation practice. Thus, the situation for L2 instruction in Brunei primary schools is that while RELA supports the communicative aspect of language teaching, children also receive regular writing instruction via the process approach, and direct vocabulary and grammar instruction within a topic-based syllabus in the English language classroom.

One motivation for the SPN21 reform is the need to improve the general performance of learners in English at the national level (Ministry of Education, 2009). The development of literacy and communication skills in learners has been identified as a major priority in the teaching of languages, and this implies a need to improve the oral and written performance of learners (Ministry of Education, 2008). The present study is designed in response to this need.

1.3 Differences in written English and Malay structures

To articulate the typological distance between English and Standard Malay, and the linguistic hurdles young Malay L1 learners have to clear as they learn English as a second language, this section focuses on several marked differences in the syntactic structures of the two languages. Many features of English do not have equivalent forms in Standard Malay (Deterding & Poedjosoedarmo, 2001; Yong, 2001). In cases where there are similarities between the structures of the two languages, there is a lack of one-to-one correspondence between linguistic features. This is likely to pose problems for ESL learners, in particular for those with limited L2 linguistic resources, because, as Svalberg and Hjeh Fatimah (1998) point out “their L1 [first language] gives

no clues which could facilitate the interpretation of English grammar, and their attempts to form hypotheses about it are therefore often unsuccessful” (p. 56). As a result, when learners are made to communicate, there is a tendency for them to produce non-English-like structures or to fall back on their first language (Shak, 2006; Williams, 2001). The written forms of the non-targetlike structures often correspond to structures found in the first language.

Based on the comments of the ten teachers who participated in the present study about the common linguistic problems found in children’s English compositions, the following language features have been selected for discussion on the basis of the recurrence of certain syntactic patterns in the writings of Bruneian Malay learners of English at the upper primary school level. The examples used in the discussion to show ungrammatical English constructions are excerpts taken from children’s writing in the present study.

(i) Past tense

Tense in English is usually indicated by adding inflections to the base form of the verb. The simple past, which is often used to show a completed event or action that took place in the past, is formed by using a past irregular form (e.g., *go – went*), or by adding –ed to a regular verb (e.g., *walk – walked*). In contrast, verbs in Malay are not inflected for tense. To indicate that an event or action happened in the past, specific past-time adverbials or adverbs of indefinite time are used instead. Some examples of specific past-time adverbials are *kelmarin (yesterday)*, *pada tahun lepas (last year)* and *pada suatu hari (one day)*. Adverbs of indefinite time include words such as *sudah (already)*, *telah (already)*, *sedang (while)*, *masih (still)* and *akan (going to)*.

There is a tendency for Malay L1 learners to use the base form of verbs to indicate non-present time in spoken and written English, even though it is the simple past form that is required in an English narrative text. As a result, it is not uncommon to find in the compositions of Malay L1 learners such non-targetlike sentences as:

- *Last Sunday Saiful and Naim play kite.*
- *Suddenly, the girl fall into the pond. The duck laughing at the girl.*
- *A few minutes, Siti show up and said “boo!” to Mahmud.*

(ii) Subject-verb agreement

Verbs in Malay are not inflected for person or number. This is particularly problematic for Malay L1 learners when they have to construct English sentences in the simple present with third person singular form. In an English sentence, third person singular verb agreement is formed by adding an –s to the verb. However, as noted by Cane (1996), there is a tendency in Brunei English speakers to use the base form of the verb in all persons of the present tense of both regular and irregular verbs. These speakers are following a simplified verb phrase paradigm that reduces all present tense forms to one base form that is used for all persons. Svalberg and Hjh Fatimah (1998) attribute this to the influence of their tenseless L1. This results in ungrammatical production such as:

- *Elle fall into the river.*
- *Amal open the door.*
- *Siti have prizen [present].*

(iii) Word order

The basic pattern in the construction of a simple sentence in English is Subject + Verb (+ Object). The presence of a finite verb in an English sentence is essential. Conversely, in the construction of basic sentences in Malay, there are at least four possible combinations: (a) Noun phrase + Verb phrase: *Rana tidur (Rana is sleeping)*; (b) Noun phrase + Noun phrase: *Rana peguam (Rana is a lawyer)*; (c) Noun phrase + Adjectival

phrase: *Rana cantik (Rana is beautiful)*; and (d) Noun phrase + Adverbial phrase: *Rana di sekolah (Rana is in school)*.

Of the four sentence structures, only the first type (a) corresponds to the English Subject + Verb (+ Object) construction. Unlike the case in English, the other three structures are possible because Malay sentences can be formed without a finite verb. This causes confusion for young Malay L1 writers, and it is not unusual for them to omit the copula *be* in their sentences. Examples include:

- *Saiful and Naim very sad because a dog very angry.*
- *Jane have one glasses but it just for play.*
- *When she in the house, she have an idea.*

(iv) Pronouns

For young Malay L1 writers, another area of considerable difficulty is English pronouns. This may be because Malay pronouns are not distinguished for gender, and the Malay equivalent of an English third person singular (*he, she*) is *dia*. As a result, it is not uncommon to see proper nouns (names of characters in a story, for example) being used throughout the text in place of the third person singular pronouns when these learners write in English, in order to avoid using the required pronouns. In other cases, the third person singular pronouns are used interchangeably in the same text to refer to the same character in the Malay L1 learners' stories.

- *Next the dog run to Adib and Adib very scared and the dog want Adib go down.*
- *Then Ali run. Then Ali jump at the tree.*
- *He is very scared of a dog then mad with her dog, she ask the dog away.*

(v) Articles

The English articles are definite *the* and indefinite *a*, *an* and *some*. In contrast, Malay has no equivalent of articles. To compound the issue, articles are sometimes required to be omitted in English. There is a tendency for young Malay L1 learners to use the incorrect articles or omit them altogether in their construction of English sentences. Examples include:

- *Last Friday Sarah study in room.*
- *Omar and Kassim run to a kite.*
- *His friend jump into a water.*

(vi) Noun plurals

In English plurals of nouns are usually formed by adding inflections –s or –es to the base form. Sometimes the base form of the noun is changed for irregular plurals (e.g., *child* – *children*). In Malay, however, nouns are not inflected for number. Instead, plurals are either formed by reduplicating the noun (e.g., *anak-anak* for *children*) or signaled by a quantifier (e.g., *ramai anak* for *many children*). This may account for the occasional omission of –s from English plurals or overuse of the plural form. Examples of such sentences include:

- *Then a girls came, the girls take the dog because that dogs is her dog.*
- *The boys is very hungry.*
- *One of the boy see the kite.*

(vii) Prepositions

There is a lack of one-to-one correspondence in the use of prepositions in English and in Malay. There are, for instance, a number of prepositions in English that do not have equivalents in Malay. On the other hand, there are some Malay prepositions that have the equivalents of several English prepositions. This leads to non-standard forms such as:

- *Zul and Zack climb to the wall and Zul climb to the tree.*
- *And the kite is at the tree.*
- *Ali go to down.*

These examples have demonstrated some of the ways in which differences between the structures of English and Standard Malay can cause problems for young Bruneian Malay learners of English. To overcome this, one common practice in schools is for teachers to provide learners with corrective feedback in their written work. How much impact this has on young learners' subsequent performance has yet to be researched thoroughly. It is, however, clear from the ACER report (Anderson, 2008) that a major percentage of learners at the primary school level experience difficulties in the construction of English sentences.

1.4 The current study

The present study investigates the possibility of providing appropriate linguistic assistance to young learners prior to their writing. To this end, a total of 257 ten-year-old Bruneian ESL learners were required to produce written narratives in English. Using a quasi-experimental design, participants were assigned either to one of three treatment groups, or to a control group. Treatment groups were provided with linguistic assistance in the form of paragraphs of text (enhanced linguistic assistance) or individual words (basic linguistic assistance) in their writing tasks; these treatment group learners worked either individually or in dyads. The control group, on the other hand, received no linguistic assistance in the writing tasks, and all control group

learners worked individually. Pre- and post-tests measured the differential effects of the two independent variables (treatment and dyadic or individual condition) on various aspects of narrative writing quality. For thirty treatment group dyads, dialogic interaction was audio-recorded, and the effects and patterns of peer interaction were investigated.

This study addresses gaps in the field of SLA research in at least three ways. First, it looks at the feasibility of providing linguistic assistance in instructional materials as a tool to mediate the language development of L2 learners via dialogic collaboration. In doing so, the investigation highlights both the significance of providing positive evidence as a resource for learners as they assist each other in the task, and of using collaborative dialogue to accommodate the provided assistance as they jointly stretch their interlanguage to express their intended meaning. Analysis examines linguistic assistance in terms of: (i) whether it facilitates learners' L2 written performance; and (ii) whether the nature of linguistic assistance impacts peer interaction.

Second, the study is a response to a call to consider both cognitive and sociocultural perspectives when looking at L2 development. Focusing solely on either stance limits the understanding of how learners actually develop linguistically when they are interacting with their peers and performing a writing task. This study thus chooses not only to look at the impact of linguistic assistance on the written narrative performance of young learners, but also to consider their linguistic development through evidence of how peer-assisted interaction builds into their abilities to use the L2. In this way, the current investigation takes on a primarily cognitive perspective, and also considers some constructs from a sociocultural theory in order to enrich the analyses of the data. In addition, the classroom-based research also addresses the pedagogic reality of providing the appropriate type of assistance to children, in order to facilitate their L2 output.

Third, most of the interaction studies in both cognitive and sociocultural domains have thus far focused on adult or adolescent L2 learners. Only a few SLA studies have ventured into primary classroom settings and examined how young learners are provided with modified input,

assistance and/or feedback through negotiated interaction to support their L2 performance (e.g., Lyster, 2004; Lyster & Ranta, 1997; Oliver, 2000; Sato & Ballinger, 2012). Such classroom-based studies have greater ecological validity, from which viable pedagogical implications can be drawn, than those conducted in laboratory settings. Mackey and Goo's (2007) meta-analysis of interaction studies, for instance, found that research conducted in classroom and laboratory settings differed significantly in terms of the mean effect sizes for interaction across immediate, short-term and long-term delayed posttests, with laboratory studies showing larger effects. This suggests that the highly controlled, more intensive and focused nature of intervention treatments in laboratory studies may have influenced the ways in which learners interacted in their production of the target language, in that they were likely to be more perceptive of the feedback given to them on their non-targetlike utterances; these findings, however, may not be reflected in actual classroom settings. Furthermore, there are even fewer studies that have explored the link between peer-assisted interaction and the subsequent individual L2 written output of young ESL learners. Particularly in the Bruneian ESL context, where learners' ability to write in the L2 is prioritised, it is important to examine how much of what is achieved via collaborative dialogue is translated into the written form.

Further, this study is significant in the local context:

- (i) it is timely because, following the National Education System for the 21st Century (SPN-21) policy, there is an urgent need to improve the general performance of learners in English at the national level;
- (ii) it will aid in the professional preparation and training of teachers, as it examines and offers alternative methods of teaching and learning ESL in primary classrooms in Brunei;
- (iii) it focuses on the use of learner-centred tasks that encourage linguistic problem solving and creativity in children, and this provides a basis for examining current classroom practices in Brunei; and

- (iv) it serves as a basis for relevant seminars, conferences and workshops for primary school teachers in the selection and design of appropriate instructional materials for young learners.

1.5 Positioning myself as a researcher

This section discusses the thinking which underpins the approach that I have taken in my research. I have adopted a realist position, one that acknowledges the contingent nature of contexts and recognizes that “scientific work must go beyond statements of regularity to analysis of mechanisms, processes, and structures that account for the patterns that are observed” (Denzin & Lincoln, 2008, p. 17). These two features highlight the empirical scientific aspect of realism. Pawson and Tilley (1997) neatly sum up a realist explanation using the formula: *outcome* = *mechanism* + *context*. The notion that the causal outcome of an experiment is a probability rather than a fixed effect, in that it follows from the mechanisms (or in the case of the present study, the provision of linguistic assistance and opportunities for peer interaction) acting in a particular context (i.e., young Bruneian ESL learners), is aptly applicable in the field of education because education essentially deals with the tenuous nature of social reality involving human participants in various social, cultural and political conditions.

The paradigm of realism appeals to me as a researcher at two levels: epistemological and pragmatic. At the epistemological level, I was caught in the dichotomy of cognitive and sociocultural perspectives in L2 education research. On the one hand, proponents of the cognitive approach advocate the conduct of research as a pursuit of objective truth. On the other hand, the sociocultural theorists assert that realities should be viewed subjectively and be referred to in terms of social, cultural and historical context. While I do not share the positivists’ view of pure objectivity, the fragile social, cultural and historical nature of the interpretivists’ research does not appear to inform fully L2 learning and teaching. Following this, realism provides an ideal compromise for the present study. Realism holds that while social reality is subjective and value-laden as it is based on the perceptions and interpretations of people, there is also an objective

reality independent of what people think. Working within this paradigm has allowed my work to explore causal explanations for learner L2 written performance and to obtain a theoretical understanding of what is going on based on “the contextual conditioning of causal mechanisms which turns (or fails to turn) causal potential into a causal outcome” (Pawson & Tilley, 1997, p. 69).

At the initial stage of my research, which concerns peer interaction, the appropriation of linguistic assistance and L2 writing development, I was working within the realm of sociocultural theory. As regards the methodological aspects of research, qualitative methods of analysis are often employed in studies based on sociocultural approaches. However, given the case study approach and the use of small sample size in most qualitative-based sociocultural studies in L2 development, it is very difficult to “show causation or produce generalizable results” (Foster & Ohta, 2005, p. 404), and this ran counter to my philosophical stance of realism that advocates the demonstration of causation. It may be difficult to justify the impact of particular mechanisms on an outcome in a study if the data are based solely on changes made by individual participants in a small sample size study. As a result, in order to obtain a better representativeness of data sample and to gain a greater understanding of the nature of assisted performance in peer learning situation and its impact, if any, on written narrative tasks, a larger number of participants were included in my study. This necessitated the quantification of a large amount of qualitative dyadic interactional data, to aggregate instances of peer-mediated assistance via collaborative dialogue. In other words, the present research was undertaken with a qualitative perspective within a quantitative framework to examine the processes of L2 development. In regard to the theoretical aspect of the study, a focus limited to the social context of learning based on sociocultural theory would have marginalized the influence of cognitive processes to learner development and resulted in an unsatisfactory perceptions and interpretations of L2 learning and literacy. There was a need to consider learner interaction with text production within a cognitive framework as well, because the construction of linguistic

knowledge in this study is seen as both a cognitive and social process. To this end, I employed further quantitative measures in the research design, to examine the products of L2 development.

At the pragmatic level, my primary motivation for the present study was in response to the call of the National Education System for the 21st Century for higher literacy performance amongst young Bruneian learners, and this indicated a classroom-based intervention study for my thesis, in order to give practical pedagogic relevance in the findings. In other words, my concern was an objective outcome, in order, when required, to inform stakeholders. Findings generated from such scientific-like approaches can be argued to be more acceptable to stakeholders, and to have more authority when disseminated as public information.

Furthermore, my work as a university teacher educator prompted the examination of the present study from the vantage point of instructed second language acquisition. Past feedback from in-service and student teachers consistently highlighted their plight in the implementation of English writing lessons at the upper primary school level. All teachers disclosed to providing learners with isolated words, some orally, others in the written form, when learners requested their help during writing. Such help was often unstructured, and their long-term effect on learners' L2 written performance untested. To this end, I have undertaken this research with the intention of exploring appropriate help for young learners during the composing process, and uncovering findings that classroom practitioners can benefit from in terms of L2 writing instruction.

In summary then, within a quantitative framework, and a realist stance, my thesis examined the use of linguistic assistance and peer interaction to facilitate L2 writing of young ESL learners.

1.6 Structure of the thesis

This thesis consists of six chapters and is structured as follows.

The first chapter has outlined the motivation for the study and provided a brief review of the language situation in Brunei Darussalam. This is followed by a discussion on why it is pertinent

to raise the standard of L2 writing amongst the young learners in the country. In addition, in order to highlight the typological distance between English and Malay, some of the differences between the syntactic and semantic structures of the two languages have been described, with examples. This is followed by a section on the significance of the study. The rationale and direction for the study are included in the deliberation of the philosophical stance adopted for this research.

Chapter 2 presents an overview of the theories underpinning the two main constructs in the study: linguistic assistance and peer interaction. There are two parts to this chapter. The first part introduces linguistic assistance as an instructional device to facilitate the L2 linguistic requirements of tasks for learners with limited L2 proficiency. Relevant literature in the areas of writing and task complexity is reviewed to address the question of how written linguistic assistance may be beneficial to young ESL learners in supporting their L2 performance in cognitively complex tasks. The second part of this chapter (Section 2.5) reviews previous research on classroom interaction, focusing particularly on dyadic learner talk. It examines peer interaction from both cognitive and sociocultural perspectives by discussing the significance of input, output and collaborative dialogue in developing learners' interlanguage. Finally, there is a section which explores the influence of task complexity on the quantity and quality of learner interaction.

Chapter 3 begins by outlining the five research questions addressed in this study. It then describes the participants, measurement instruments, intervention materials and procedures employed in the current investigation. It also provides an account of how the data were analyzed. The next part of this chapter (Section 3.8.2) includes a discussion on why an analysis using interactional episodes, specifically language-related episodes and content-related episodes, was employed in the present study. This is followed by a detailed description of the coding scheme that was developed to capture the content of peer interaction and how learners provided assistance to their partners during the collaborative narrative writing tasks.

Chapters 4 and 5 present the results of the study. Whereas Chapter 4 addresses Research Questions 1, 2 and 3 by focusing on findings based on the written performance of learners, Chapter 5 concerns Research Questions 4 and 5 by examining findings based on peer interaction. The findings in Chapter 5 also look at the possibility of relationships between linguistic assistance, types of peer interaction and subsequent L2 written performance. At the end of each chapter, discussions are provided, based on the results of the analyses.

Chapter 6, the concluding chapter, synthesizes the outcomes of all the research questions and outlines the contributions of this study to second language education. It also addresses the limitations of the study. The chapter culminates with suggestions for future research directions.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The purpose of this chapter is to provide an overview of theories underpinning the use of the two key components in the present study, *linguistic assistance* and *peer interaction*, as instructional tools to help young ESL learners to attain a higher level of L2 written performance. Because there is an oral element present in the collaborative narrative writing tasks employed in this research, in the first section a consideration of Levelt's (1989) speech production model is undertaken, to discuss the cognitive processes that occur during speaking, followed by a description of Flower and Hayes's (1981) writing process model to discuss the cognitive processes involved in writing during narrative task performance. In particular, these models are used as a framework to highlight how learners' attentional resources may be allocated when they are required to perform a complex task. To this end, a comparison between two hypotheses regarding selective attention and regulation of attentional resources is made: Robinson's (2001a, 2001b, 2007a) Cognition Hypothesis and Skehan's (1998) and Skehan and Foster's (1999, 2001) Trade-off Hypothesis. This is then followed by a discussion on how linguistic assistance can potentially fit into the construct of cognitive complexity to compensate for the limited linguistic resources of L2 learners.

The following part of this chapter (Section 2.5) sets out to review the literature on the role of interaction in L2 learning, especially in the context of young learners. It focuses on peer interaction in relation to task-based instruction from two perspectives. The first perspective concerns how learner interaction can foster L2 learning during task performance. It addresses the significance of input, output and collaborative dialogue in developing learners' interlanguage, and hypothesizes an alternative route to second language acquisition. In the context of collaborative dialogue, it also explores how peer assistance can facilitate language development

during task performance. The second perspective then considers how task complexity may influence learner interaction.

2.2 Articulating ideas into spoken and written language during task performance

One essential feature of tasks is that they require learners to employ cognitive processes during task performance. These processes may include planning, organizing, reasoning, hypothesizing, comparing and evaluating information (c.f. Ellis, 2003; Samuda & Bygate, 2008). Such engagement of cognitive processes as learners work towards a task outcome can generate opportunities for them not only to use the target language in meaningful and purposeful contexts but also to have their attention drawn on relevant linguistic features (Bygate, Skehan, & Swain, 2001). What this means, then, is that the cognitive demands of tasks can potentially influence the linguistic performance of learners.

To understand how oral language is cognitively processed, Levelt (1989) proposes a psycholinguistic model of speech production, shown in Figure 1. Initially put forward to explain the language production of adult L1 speakers, it has since been adapted to account for L2 spoken performance (c.f. Bygate, 2001; de Bot, 1992; Kormos, 2006; Tavakoli & Foster, 2008). There are three main processing components in the model in terms of language use: the Conceptualizer, the Formulator and the Articulator. Essentially, an idea or a concept to be conveyed is first encoded in the *Conceptualizer* and generated as a preverbal message. This preverbal message is subsequently delivered to the *Formulator*, which converts it into a phonetic plan through the process of lexical retrieval. The activation and selection of the available lexical items stored in the lexicon to match the semantic content of the preverbal message can then drive grammatical encoding to derive a surface structure which is further processed in the phonological encoder for the exact construction. The realization of the phonetic plan takes place in the *Articulator*, which converts it into actual speech. Throughout, the monitor in the Conceptualizer and the Audition leading to the Speech-comprehension system attend to the output at various stages to check for anomalies. Specifically, there are three routes of control taken by the monitor to check the

outcome of the production processes. The first route, known as the conceptual loop of monitoring, involves the comparison of the preverbal message with the intention of the speaker. Here, the speaker may notice that the planned message is not appropriate in terms of its content or social propriety, and as a result, he or she may need to modify the preverbal message before it is delivered to the Formulator. The second route of control, the prearticulatory loop, concerns the monitoring of the phonetic plan before it is sent to the Articulator. In this case, the speaker may notice an error in the encoding process (such as the selection of an inaccurate word) and initiate a self-repair before it is articulated. The third route, the external loop, relates to the monitoring of the appropriateness of, and the detection of errors in, the articulated utterance. When the monitor detects inappropriateness or inaccuracy in the production of speech in any of the three loops, it either sends the original form of the message back to the relevant processing component, or triggers the creation of a new or modified form and have it delivered to the relevant component. It is important to note that even though Levelt's speech production model is presented as a stage model, all the components are simultaneously active and operate in tandem.

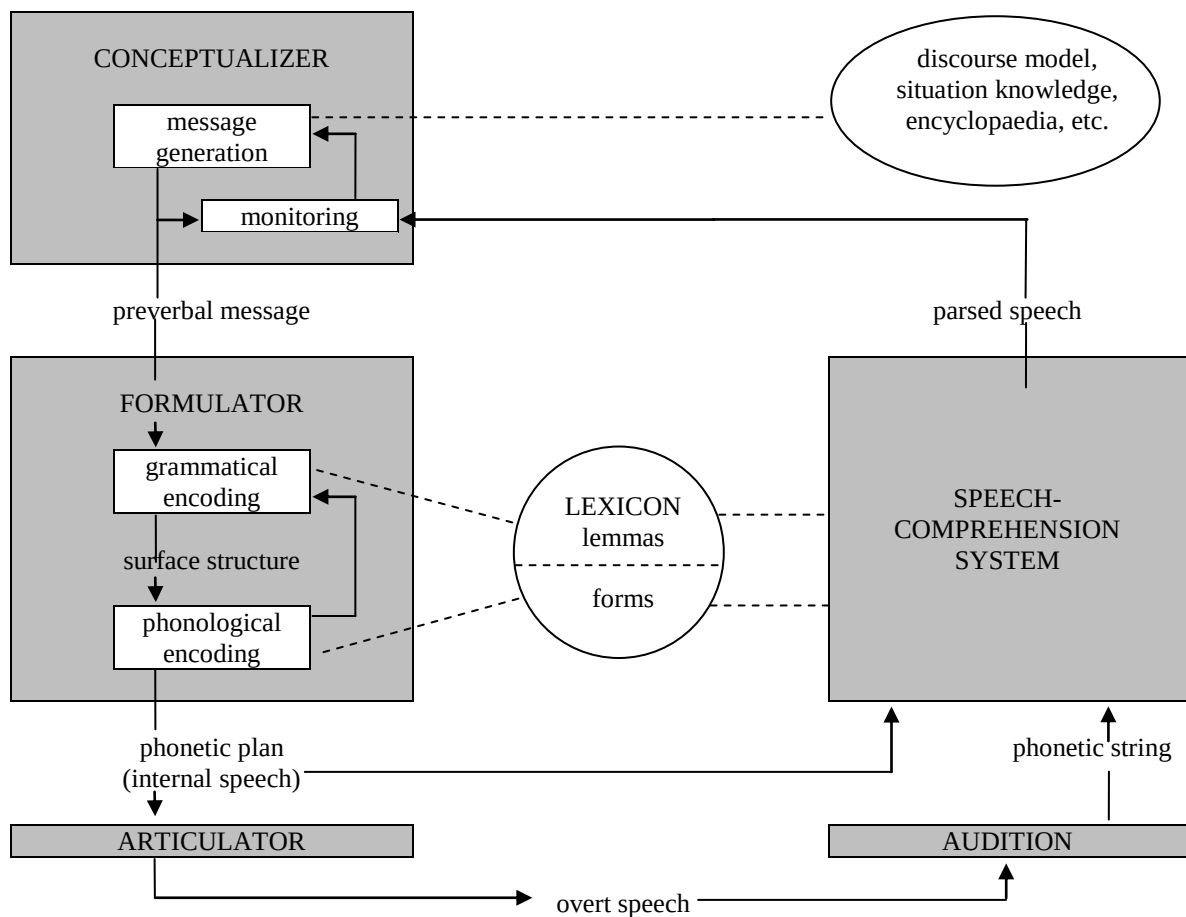


Figure 1. Levelt's speech production model (taken from Levelt, 1989)

The implications of Levelt's speech production model for the present study are threefold:

- (i) The model is lexically driven in that it is the retrieved lemmas that activate grammatical encoding and specify the relevant (and available) syntactic information needed for the construction of speech. In view of this, when L2 learners encounter difficulties during task performance, it becomes pertinent to provide them with relevant lexical items or expressions (the latter include appropriate, albeit minimal, syntactic information of lexical items), in order to aid their speech production. It is possible that the availability of such linguistic assistance may cause the learners to process subsequent input with more focused attention.
- (ii) Grammatical encoding is assumed to occur subconsciously and automatically during speech production. In the case of young ESL learners whose proficiency in English is likely to be limited, it may be necessary for them to engage conscious attention and

controlled processing of language use when they are performing a task in the target language. In this way, through the process of grammatical encoding, learners may become aware of what they lack in their current interlanguage during production. This means that their attention may be directed to notice the disparity between their intended output and the actual speech production. This will be discussed further in the context of learner interaction.

- (iii) Due to their existing limited L2 linguistic resources, it is also unlikely that young ESL learners possess sufficient information in the monitor and speech-comprehension system to assess the accuracy and appropriateness of their speech output. Even if they are aware of anomalies in their production, they may lack the resource to resolve their linguistic problems. If such is the case, these learners may search for alternative routes during task performance. For example, they may seek external assistance (from a teacher, peers or even a dictionary) and decide whether to accept, reject or modify the newly gained knowledge. Learners may also choose to work collaboratively with peers and exploit their shared resources, in order to consolidate existing knowledge or co-construct new knowledge. Another alternative is to provide relevant written linguistic assistance to learners during task performance, which can potentially serve as an exemplar to which learners can match their own production. As learners' attention may be drawn to noticing the disparity between the target language and their own output, they may also focus more closely on aspects of the written linguistic assistance that help resolve their linguistic problems in production.

To foreground my discussion on the allocation of learner attention during spoken and written task performance in the following section (Section 2.3), Levelt's speech production model is compared with the cognitive-oriented model of Flower and Hayes (1981), which illustrates the main cognitive processes involved in writing. While it is acknowledged that Flower and Hayes's (1981) model has been extended to include other elements such as context, motivation, affect and memory, in recognition of the broader contexts of writing, the main cognitive processes

described in the original model have been retained, sometimes with other labels (c.f. Chenoweth & Hayes, 2001; Hayes, 1996; Kellogg, 1996). For this reason and for the purpose of comparing cognitive processes in language production, the original version of Flower and Hayes's (1981) model is used here.

Writing, according to Flower and Hayes, is essentially a problem-solving and decision-making task. Their writing process model (illustrated in Figure 2) comprises three primary interactive and recursive processes: planning, translating and reviewing. *Planning* involves generating ideas that may be retrieved from learners' long term memory or obtained from the task input (or other sources), and selecting and organizing them in a coherent manner according to the writing goals set by the learners. *Translating* is the process of converting the planned, albeit often fragmented, ideas into conventional linguistic forms. To this end, two sub-processes are involved. The first concerns the selection and activation of available lexical items in learners' memory, the syntactic encoding of clauses and sentences and the establishing of cohesive links when organizing the text. Berninger, Fuller and Whitaker (1996) call this sub-process *text generation*, and distinguish it from the second sub-process of *transcription*. The latter refers to the motor task of putting down the text in printed form, drawing on orthographic and phonological knowledge and skills to translate linguistic representations into written symbols. To ensure goal attainment and accuracy and appropriateness in the expression of meanings in text, the process of *reviewing*, which includes reading and/or revising, is undertaken to evaluate what is written. Revising, an optional process in writing, allows learners to reflect, compare and match the mental representation of the text that they intend to compose and the actual realization of the text, both at the linguistic and semantic levels. As for the monitor, it plays the role of a strategist and coordinates all the main processes and sub-processes of writing. Again, although Flower and Hayes's writing process model is presented as a stage model, the processes do not occur in a fixed, linear order; instead, they may operate concurrently and in a recursive manner.

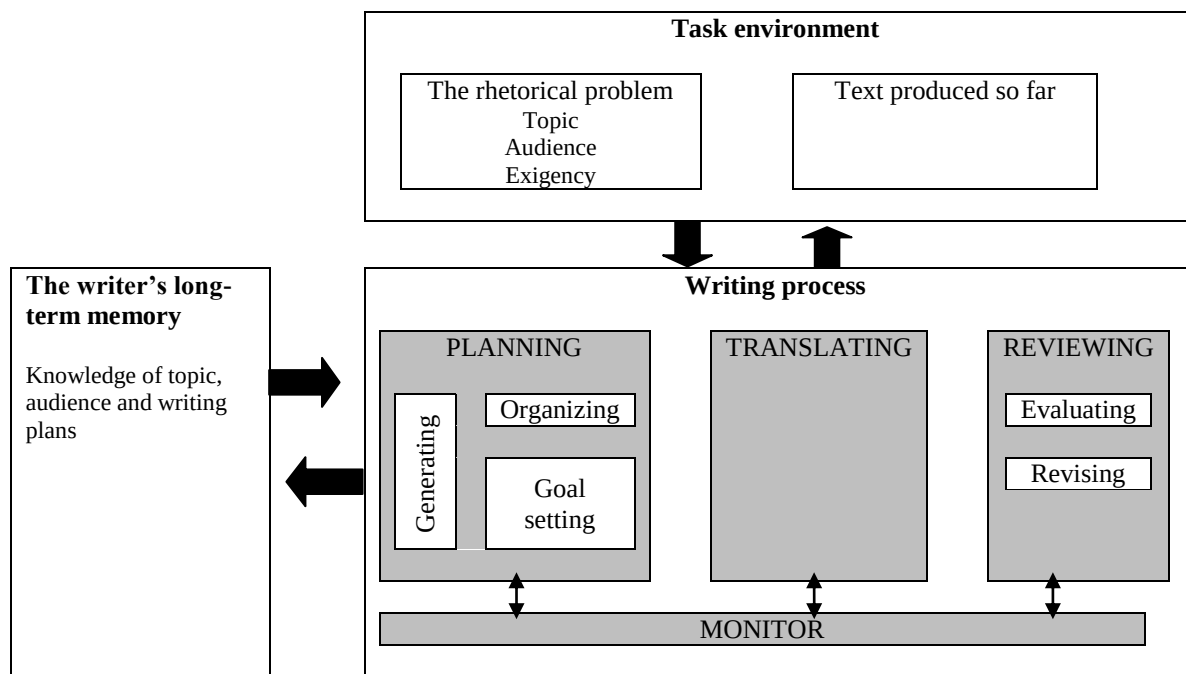


Figure 2. Flower and Hayes's cognitive process model of writing (taken from Flower & Hayes, 1981)

As with speaking, writing has to be learnt, in particular the translating process. For young learners, to produce text, they need to be able to simultaneously handle the mechanical aspects of putting words on paper (transcribing), and to draw on appropriate lexical, grammatical, orthographical and discourse features specifically associated with the target written language (text generation). Inefficiency in either sub-processes will result in lower quality of written performance. Poor spelling and handwriting skills, for instance, have been shown to limit the quality of text in children's writing. Based on a capacity theory of writing, Bourdin and Fayol (1994, 2000) and Fayol et al. (2012) argue that this limitation occurs because the transcription process in young children, when not fully controlled by them, imposes higher working memory and attentional demands during writing, and as a result, fewer resources are available for other processes such as word retrieval. By Grade 4 (age 9 or 10), children typically develop adequate fluency in the transcription process such that it no longer exerts additional demands on working memory during writing (Bourdin & Fayol, 2000; McCutchen, 1996; McCutchen, Covill, Hoyne, & Mildes, 1994).

This, however, is not the case for text generation. According to McCutchen (1996), text generation continues to require working memory and attentional resources across age levels. This means that, regardless of age, if learners do not have fluency in lexical retrieval and in sentence building when translating their ideas into written language, their attention is likely to be diverted to focusing on accessing lower-level linguistic resources instead of higher-level processes in writing. This will inevitably affect the quality of their composition. Comparing the performance of 117 younger children in Grades 3 and 4 and 93 older children in Grades 7 and 8, McCutchen et al. (1994) found that the older children generated individual sentences more fluently than did younger children, but at all grade levels, skilled writers were more fluent than less skilled writers. In terms of lexical retrieval, McCutchen and colleagues also observed that the children in Grade 5 who were skilled writers were faster and more accurate in accessing individual words than the less skilled writers. Put simply, the text generation process in skilled writers was more efficient. From this, it can be seen that, in order to develop writing expertise, what is crucial is not only having a sufficient amount of linguistic knowledge available, but also having fluent access to this knowledge (Chenoweth & Hayes, 2001; McCutchen, 1996, 2000, 2011).

Taken together, Levelt's speech production model and Flower and Hayes's writing process model show similarities in their main processing components (as summarized in Table 1). These components are conceptualization of preverbal ideas (numbered (1) in Table 1), linguistic formulation and actual language production (2a and 2b), and evaluation of production (3).

Table 1

A comparison of the key processing components in Levelt's speech production model and Flower and Hayes's writing process model

Key components in Levelt's speech production model	Key components in Flower and Hayes's writing process model	Common processes in the two models
(1) Conceptualizer	(1) Planning	(1) Conceptualization stage • Generation of preverbal ideas
(2a) Formulator	(2a) Translating: Text generation	(2a) Linguistic formulation stage • Lexical retrieval • Grammatical encoding • Phonological/orthographic encoding
(2b) Articulator	(2b) Translating: Transcription	(2b) Actual language production
(3a) Speech-comprehension system (3b) Monitor (in the Conceptualizer)	(3) Reviewing	(3) Evaluation stage • Evaluation (possibly leading to revision) of production

Of particular interest to the present study is the linguistic formulation stage, which concerns the conversion of mental ideas into linguistic form (2a). In both models, learners need to be able to tap into their memory and evoke relevant vocabulary and language styles and structures to represent their ideas and goals, and to articulate them in acceptable expressions during text production. This may not be easy for L2 learners, particularly in written language production. Chenoweth and Hayes (2001), for instance, conducted a study on writing fluency in the L1 and L2 with thirteen university-level English learners of either German or French and found that demands made by lexical retrieval on cognitive resources, as measured by the length of strings of words proposed by learners between pauses of at least two seconds (P-bursts) and between revision episodes (R-bursts) during writing in think-aloud protocols, were higher when learners were writing in an L2 than in the L1. Their analysis also revealed that as learners gained experience in the target language, there was an increase in fluency and in the average length of strings of words proposed between pauses and between revision episodes. There was also a decrease in the number of revision episodes. This was interpreted by the researchers as evidence that lexical retrieval can be made more efficient through instruction, and that more efficient lexical retrieval may lead to a reduction in resource demands for constructing longer and more complex sentences. In addition, based on their analysis involving seven secondary school

students, seven university students and seven graduates (all native speakers of Spanish learning English as an L2), Roca de Larios, Marin and Murphy (2001) found that the lower the L2 proficiency of learners, the more they devoted their attention to formulation during the writing process, as evidenced by the length of composing time they spent on formulation as compared to planning and revision.

In a three-year longitudinal study that involved 389 secondary school students in the Netherlands, Schoonen et al. (2011) compared the development of writing proficiency of these learners in their L1 (Dutch) and in English (as a foreign language) and found that, over time, English writing proficiency became more strongly related to linguistic knowledge and linguistic fluency than did Dutch writing proficiency. This clearly illustrates the significant influence of lexical retrieval and grammatical knowledge on English writing performance as learners gain more control over the target language. For L1 writing, these learners might have reached the level at which they had sufficient linguistic knowledge and could access this knowledge fluently during writing, and this allowed them to concentrate their cognitive resources on the writing process. Thus, an increase in L1 lexical and grammatical knowledge and linguistic fluency did not affect their L1 writing performance. In contrast, for L2 writing, the retrieval and deployment of linguistic knowledge still required conscious effort and focused attention, and this lack of automaticity might consume the cognitive resources that would otherwise have been available for cognitive aspects of writing. This means that an increase in L2 linguistic knowledge or fluency freed up for writing some of the resource capacity that had been used at a less proficient level for retrieval and deployment of linguistic knowledge. Having difficulty in accessing L2 lexical or grammatical knowledge efficiently for the formulation of the intended expressions may impede learners from attending to higher-level processes such as generating and elaborating on ideas and organizing the discourse (Manchón, Roca de Larios, & Murphy, 2009; Schoonen, Snellings, Stevenson, & van Gelderen, 2009).

At the same time, for L2 learners, they have at least two linguistic repertoires, i.e. their L1 (or L1s) and their developing L2, which they can draw on when they are producing the target

language. Thus, it is hardly surprising to find L2 learners, particularly those with limited linguistic resources, to switch back and forth between their L1 and L2 during the L2 composing process (e.g., Martin-Beltran, 2010; Storch & Aldosari, 2010; Storch & Wigglesworth, 2003; Swain & Lapkin, 1998). The next section discusses the interface between the L1 and L2 with respect to learner performance in L2 writing.

2.2.1 L1 use in L2 writing

One way of looking at the interface between the L1 and L2 in L2 writing performance is to examine how the L1 is utilised to assist learners in meeting the cognitive and linguistic demands of L2 writing. Indeed, the use of the L1 during L2 composing is fairly ubiquitous. Numerous studies have shown that both proficient (Cumming, 1989; Murphy & Roca de Larios, 2010; Wang, 2003) and less proficient writers (Roca de Larios, Murphy, & Manchón, 1999; Wang & Wen, 2002; Woodall, 2002) use their L1 while generating texts in the L2. The extent to which L1 is used in the L2 composing process appears to vary according to, *inter alia*, L2 proficiency and task difficulty. For instance, think-aloud protocols from eight adult Chinese L1 learners of English as a second language performing two writing tasks (an informal letter and an argumentative essay) in Wang's (2003) study revealed that the high proficiency learners used their L1 more often than did the low proficiency learners. Further examination of the data indicated that the high proficiency learners' L1 use mostly concerned the overall discourse of their written texts, whereas the low proficiency learners' L1 use mainly concentrated on direct translation from their L1 into the L2 in order to compensate for their L2 linguistic deficiencies. Similarly, in Wang and Wen's (2002) study of sixteen adult Chinese L1 learners of English as a foreign language, think-aloud data showed that the low proficiency learners tended to translate directly from their L1 into the L2 when they were producing narrative and argumentative essays. The high proficiency learners, on the other hand, were inclined to use their L1 for generating and organising ideas and monitoring their writing. However, the study reported that it was the low proficiency learners who used more L1 than the high proficiency learners during L2 composing.

Woodall (2002), in his study of 28 adult participants (nine L2 Japanese, eleven L2 English and eight L2 Spanish), also found that the less proficient L2 learners switched to their L1s more frequently than did their more proficient counterparts when they were writing an informal letter and a persuasive essay. What is interesting here, however, is his observation that while L2 proficiency may influence the frequency of L1 use, task difficulty appears to affect the duration of L1 use (as measured by the number of seconds taken up by an utterance in the L1 during L2 writing). Woodall reported that the learners in his study were likely to use their L1s for longer periods of time for the more difficult task; this indicates the essential role of the L1 in helping learners work through their problems, in order to accomplish the writing task. Centeno-Cortés and Jiménez Jiménez's (2004) analysis of L1 use in private speech also highlights the mediating function of the L1 in the process of reasoning. Their study, involving six native speakers of Spanish, six American advanced Spanish L2 learners and six American intermediate-level Spanish L2 learners solving a series of problems in Spanish, showed that even though there was significantly more L1 use amongst intermediate-level learners than amongst advanced learners, the advanced learners also reverted to their L1 when they encountered difficulties during problem-solving tasks. This finding again points to the crucial role of the L1 in assisting even advanced L2 learners to overcome "breakdowns in the thinking process" (p. 20). In line with this, Murphy and Roca de Larios (2010), using think-aloud protocols in their study to explore how seven advanced Spanish L1 learners of English as a foreign language utilised their L1 as they engaged in solving lexical problems in a narrative and an argumentative writing task, found that these writers employed the L1 not only to compensate for their lack of L2 resources, but also to refine their lexical choices. Given that the participants produced significantly more lexical searches that involved improving their lexical choices when performing the more complex argumentative writing task, Murphy and Roca de Larios concluded that the cognitive difficulty of tasks influences the quantity and quality of lexical searches undertaken by learners in the L1 during L2 composing.

What can be seen from the aforementioned studies is the use of the L1 by learners of varying levels of L2 proficiency while they are composing their L2 texts individually. When faced with tasks which require considerable cognitive effort, L2 learners are likely to revert to using their L1. In this respect, the L1 serves more than as a source of linguistic transfer; it functions as a cognitive tool to regulate learners' mental processes as they attend to aspects of language and content generation for their L2 writing. Thus, of interest to the present study is how the L1 offers cognitive support to L2 learners when they generate ideas, plan the organisation of texts and solve linguistic problems during L2 writing.

Idea generation involves writers formulating, considering, reconsidering and synthesizing the content in their text. The use of the L1 in idea generation during L2 writing is reported in several studies (e.g., Akyel, 1994; van Weijen, van den Bergh, Rijlaarsdam, & Sanders, 2009; Zarei & Amiryousefi, 2011). For example, Wang (2003), using think-aloud protocols and introspective interviews with four high proficiency and four low proficiency Chinese ESL learners, analysed the participants' use of the L1 to formulate ideas and found that there were distinctions between the two proficiency groups in the way the L1 was deployed. The analysis showed that more proficient learners tended to use the L1 to plan and generate the content of their writing in consideration of topical appropriateness and the overall coherence and organisation of the written discourse. These learners were also found using the L1 to summarise the ideas written in their texts in order to evaluate whether the generated content integrated with their global planning. Conversely, the less proficient learners tended to generate content-specific ideas in the L1 and then translating them into the L2 in their compositions. Each generated idea appeared to probe the next written production. In this way, the less proficient learners seemed to use the L1 to support and maintain the L2 composing process.

L2 learners have been found to use the L1 to address linguistic concerns that arise when they are composing in the L2 (Cumming, 1990; Roca de Larios, et al., 1999; Woodall, 2002). These may occur when learners are unable to access and retrieve the desired L2 lexical or grammatical items, or when they are doubtful of the accuracy or appropriateness of their selected choice of

lexical items to express their intended meaning. Think-aloud protocols from sixteen EFL learners with four differing levels of English proficiency performing narrative and argumentative writing in Wang and Wen's (2002) study, for instance, revealed that low proficiency learners were likely to directly translate words or phrases from their L1 into the L2 when constructing sentences. Here, their approach to using the L1, which was often limited to retrieving L2 lexical items that matched the meaning of the corresponding L1 words, appeared to lack rhetorical focus. High proficiency learners, on the other hand, tended to generate text directly in the L2, but occasionally to revert to the L1 "to retrieve a better L2 word" (p. 238) in relation to the context and overall discourse organisation, or to verify the appropriateness of the language produced.

The study by Murphy and Roca de Larios (2010) mentioned earlier, involving seven advanced Spanish L1 learners of English performing two writing tasks under the think-aloud condition, identified six main uses of the L1 in solving lexical problems during L2 writing: (i) generating words or phrases in the L1 to be converted into the L2; (ii) backtracking through the written text either to reconsider the match between the writer's intention and the selected expression, or to stimulate the text generation process; (iii) evaluating and making decisions about the accuracy or appropriateness of a lexical choice in relation to the context of the writing; (iv) self-questioning either to probe memory, or to indicate awareness of a linguistic problem and to seek an appropriate resolution; (v) using metalinguistic terms to recall linguistic rules; and (vi) making comments about the approach used to search for L2 words or expressions. Here, it can be seen that the L1 provides cognitive and linguistic support to learners during L2 composing, allowing them to focus attention on relevant linguistic information, retrieve appropriate L2 vocabulary (and language forms) from memory, and analyse and evaluate the accuracy or appropriateness of the language produced.

Importantly, the L1 is also an integral part of learners' L2 composing processes when they engage in collaborative writing (Carless, 2002; DiCamilla & Antón, 2012; Storch & Wigglesworth, 2003; Villamil & de Guerrero, 1996). Here, in addition to affording learners cognitive and linguistic resources to facilitate L2 writing, the L1 may serve an important social

function by helping learners to establish and maintain intersubjectivity during peer interaction (Antón & DiCamilla, 1999; Swain & Lapkin, 2000), and to create a shared perspective on how to manage and complete a task efficiently (Alegria de la Colina & Garcia Mayo, 2009; Storch & Aldosari, 2010). Of relevance to the present study, however, is the use of the L1 by L2 learners to solve linguistic problems and to provide peer assistance during collaborative writing.

DiCamilla and Antón (2012), for instance, in their examination of the oral interactions of 22 English L1 university-level learners of Spanish (i.e., 11 beginner-level learners and 11 advanced learners) working collaboratively on a writing task, found that for both advanced and beginner-level learners, the L1 was most frequently used for discussing the content of the composition and for solving lexical and grammatical problems. However, it should be noted that interactions amongst advanced learners were predominantly in the L2, with minimal L1 use on task-related matters. In contrast, amongst beginner-level learners, there was heavy reliance on the L1 to mediate their writing performance, and they tended to employ translation of sentences from English to Spanish when they were creating content for their composition. Put another way, L1 use permitted these low proficiency learners to draw on their existing linguistic resources, in order to accomplish the writing task. DiCamilla and Antón thus concluded that: (i) for beginner-level learners, the L1 functioned as a mediating tool for performing the task and for reflecting on the L2 as “the system to be learned” (p. 183); and (ii) for advanced learners, the L2 was the mediating tool for learning.

Bani-Shoraka and Jansson’s (2007) study of how language was used between bilingual learners in resolving lexical problems during L2 writing also revealed the potential role of the L1 as a cognitive tool, even for advanced L2 learners. Using conversation analysis to examine code-switching patterns in four lexical language-related episodes that occurred during a collaborative writing session between two Persian L1 university-level advanced learners of Swedish as a second language, the researchers found that code-switching between the two learners enabled them to focus their attention on a linguistic problem (by initiating repairs and requesting for clarifications), seek alliance when the problem was made explicit (by jointly establishing the

nature of the problem and seeking a resolution), and confirm their mutually-reached understanding when the problem was resolved. In this way, the L1 deployed during L2 interaction afforded the advanced bilingual learners an additional resource to negotiate, co-construct and verify their understanding of the problematic lexical items. (The notion of co-constructing knowledge through collaborative dialogue is further discussed in Section 2.6.3.)

For L2 learners, notably those with low proficiency levels, L1 use may offer them an opportunity to demonstrate their content- or linguistic-related knowledge and provide assistance to their peers during L2 writing. Kibler (2010), for instance, analysed oral interactions amongst five adolescent Spanish L1 learners of English as they completed a collaborative letter-writing task, and found that all her participants used their L1 to switch between the expert and novice roles while they deliberated on task procedures, academic content, rhetorical patterns and linguistic forms during task. Through the deployment of the L1, these learners were able to demonstrate and share their knowledge about certain aspects of writing with their task partners, and to seek help from them when they encountered problems in their writing. In this sense, the L1 not only allowed learners to utilize a range of their existing linguistic resources while composing in the L2, but also enabled them to position themselves in relation to their peers as experts or novices during collaboration.

In sum, these studies have demonstrated that L1 use is, to a large extent, integral to L2 writing, and that it serves important cognitive, linguistic and social functions in the composing process. For this reason, the young ESL learners in the present study were allowed to interact in either English or their L1, Malay, during the L2 narrative writing tasks. Although L1 use is not the main focus of this study, data related to whether young ESL learners utilised the L1 when they deliberated over the content or language forms in their compositions, and when they sought or offered assistance to their peers, were, nonetheless, incorporated into the analysis. This was done in order to provide insight into whether the provision of varying degrees of linguistic assistance influenced the extent to which the L1 was used in L2 writing.

L1 use aside, in addition to the cognitive processes involved in language production, there is another, and equally important, dimension to consider in performance of a task, whether oral or written, and that is, the cognitive complexity of the task. Robinson (2001b) defines *task complexity* as “the result of attentional, memory, and other information processing demands imposed by the structure of the task on the language learner” (p. 29). At issue is how attention is deployed during task performance, in order to meet the linguistic demands of the tasks. There are two contrasting models to account for the allocation and regulation of attentional resources: Robinson’s (2001a, 2001b, 2007a) Cognition Hypothesis and Skehan’s (1998) and Skehan and Foster’s (1999, 2001) Trade-off Hypothesis. These are discussed in the next section in relation to the cognitive processes involved in written and spoken language production during task performance.

It should be made explicit here that it is not the intention of this research to test whether it is the assumptions of the Cognition Hypothesis or the Trade-off Hypothesis that are correct. Nor does this research focus on how the intentional manipulation of different task variables affects the cognitive demands of a task, or how this may in turn influence the quality of language production. These lines of investigations have been frequently researched (e.g., Gilabert, 2007; Kim, 2012; Kuiken & Vedder, 2008; Révész, 2009; Robinson, 1995; Tavakoli & Foster, 2008) and are outside the scope of the current study. Rather, the intention here is to examine whether linguistic assistance can support learners by easing the L2 linguistic demands imposed upon them when they perform a cognitively complex task.

2.3 Attentional resources and L2 production during task performance

Both the Cognition Hypothesis (Robinson, 2001a, 2001b, 2007a, 2011b; Robinson & Gilabert, 2007) and the Trade-off Hypothesis (Skehan, 1998, 2009; Skehan & Foster, 1999, 2001) posit that conceptual demands of L2 tasks can determine the extent to which learners allocate their attentional resources, in order for them to meet the linguistic demands of tasks. The structure of a task imposes some degree of attentional, memory and/or reasoning demands on learners as they

process the information needed for task completion. To express their thoughts and convey their intended meanings or queries, as required by the task, learners need to tap into their available L2 linguistic resources. The question of interest, therefore, for both hypotheses, is how the manipulation of attentional demands in a task affects learners' L2 linguistic performance.

It should be noted that, given that their focus is mainly on L2 oral production, Robinson (1995, 2007b) and Skehan (2009) have articulated their respective hypotheses in reference to Levelt's (1989) model of speech production. In the present study, however, their hypotheses have been extended to include the influence of task demands on L2 written performance as well, using Flower and Hayes's (1981) writing process model. This is possible because, as indicated earlier, writing and speaking share some similarities in the way they are processed cognitively.

Specifically, the three common cognitive stages involved in the oral and written language production process are the conceptualization of preverbal ideas, linguistic formulation (which includes stages of lexical, grammatical and phonological encoding) and actual language production, and evaluation of production (Table 1).

As proposed by Robinson (2001a, 2001b, 2007a), the Cognition Hypothesis assumes voluntary regulation of attention and memory, in that learners are able to access multiple and non-competitive pools of attention when performing a cognitively demanding task. This framework of attention is based on Wickens's (2007) Multiple Resources Model which proposes separate resource pools along three dichotomous dimensions: processing stages (perceptual vs. response), codes of processing (verbal vs. spatial) and modalities (auditory vs. visual). Each dimension represents a different aspect of task performance. According to this model, the difficulty of a task depends on, for instance, whether it draws on the same modality or on different modalities. Drawing on the same modality means that there are greater task demands on learner performance because there is competition within specific resource pools along this dimension. As Wickens (ibid.) explains, "to the extent that any two tasks share common levels along more dimensions, interference will be greater" (p. 187), and this will negatively affect task performance.

The Cognition Hypothesis distinguishes between resource-directing and resource-dispersing dimensions of task performance. Whereas the former (e.g., using reasoning skills, narrating events displaced in time and space) entail cognitive-conceptual demands which potentially draw learners' attention to specific, task-relevant language features within the same resource pool, the latter (e.g., performing more than one task simultaneously, providing a clear task structure) impose performative-procedural demands which divert learners' attention to aspects of the task not related to any element of the linguistic system, or, put another way, they disperse attention between pools. Robinson posits that increasing task complexity along resource-directing dimensions can potentially lead to greater syntactic complexity, lexical variation and accuracy of L2 production. This is because, with added conceptual demands, learners tend to exert greater effort at the conceptualization stage of task performance where their attention is directed to understanding the content of the task and planning execution strategies or solutions. This, in turn, creates the conditions for learners to focus on the linguistic encoding of the content at the linguistic formulation stage and to attend to specific linguistic forms that are required for task completion. For Robinson (2007a), cognitive-conceptual demands made at the conceptualization stage "prime learners – and direct their attentional and memory resources – to aspects of the L2 system required to accurately understand and convey them, thereby facilitating 'noticing' of these, and so speeding up L2 grammaticisation in conceptual domains" (p. 17). Robinson asserts that this will lead to positive consequences for accurate and complex linguistic performance, albeit lower fluency due to the deliberate processing of language. Thus, put simply, the more cognitively demanding the content in a task, the more likely learners are to use and produce accurate and complex syntactic structures during task performance.

Skehan and Foster (2001), however, question whether there are linguistic resources available for L2 learners to attend to the cognitively demanding content in a task and the complex use of the linguistic forms during task performance. A similar concern has also been raised in writing research. For L2 learners whose second language may have not been proceduralized, the limitation of attentional resources may affect the writing process as well as the written product.

This is because writing requires conscious attention to retrieve lexical items and relevant grammatical information, and as such, leaves little or no memory capacity free to attend to higher-level concerns such as idea generation, selection and organisation, revision of content and evaluation of text structure (Manchón, et al., 2009; McCutchen, 1996, 2000, 2011; McCutchen, et al., 1994). Skehan and Foster (2001) propose the Trade-off Hypothesis which considers attention and memory to be limited in capacity. L2 learners, when their capacities are stretched to a limit, are likely to attend to only some aspects of performance, which may be complexity, accuracy or fluency, at the expense of others. This means that, for the Trade-off Hypothesis, increasing task complexity can potentially draw learners' attention away from linguistic forms, in order to focus on the content of the task. It further predicts that an increase in fluency may be accompanied by either an increase in syntactic complexity or accuracy, but not both (Skehan, 2003; Skehan & Foster, 2001).

Skehan (2009) also distinguishes between complexifying/pressuring and easing/focusing influences, and relates these to the different stages of language production. Whereas complexifying/pressuring influences consist of conditions that make tasks more difficult (e.g., the need to use less frequent words, performing under time pressure), easing/focusing influences comprise conditions that lower the processing demands of tasks and direct learners towards accuracy (e.g., rehearsing language for subsequent performance, working with peers). Like Robinson, Skehan proposes that cognitively more demanding tasks with complexifying/pressuring influences can lead L2 learners to exert greater effort at the conceptualization stage. However, given attentional limitations, this greater effort results in more call on the limited capacity of working memory during language production. Learners may experience more effortful and slower access to the L2 lexical and syntactic information stored in the "smaller mental lexicon and with significantly less organization and elaboration" (Skehan, 2009, p. 518) characteristic of the L2 when they have to retrieve less familiar lemmas or produce language under pressuring conditions at the linguistic formulation stage. This is likely to cause

disruptions and delays in cognitive processing, with learners requiring frequent repairs in their production.

As a midpoint summary, the Trade-off Hypothesis and the Cognition Hypothesis converge on three points: (i) various task variables can be manipulated to influence task complexity; (ii) task complexity can affect how learners allocate their attention to meet the linguistic demands of tasks; and (iii) increasing task complexity raises not only the cognitive demands made at the conceptualization stage, but also the linguistic demands made at the formulation stage. The third point is based on the assumption of both hypotheses that conceptually demanding tasks require more complex linguistic performance (e.g., the use of complex syntactic structures) than conceptually simple tasks. Where the two hypotheses differ is their stance on the capacity of learner attention in task performance. The Trade-off Hypothesis assumes a limited capacity for attention, and assumes that increasing task complexity reduces the attentional resources for focusing on linguistic forms, because learners are likely to prioritize processing for meaning over processing linguistic forms. On the contrary, the Cognition Hypothesis assumes accessibility to multiple pools of attention. Increasing task complexity along various task dimensions that belong to different resource pools may lead learners to focus more on L2 linguistic forms because of the greater effort they need to exert, in order to understand and convey their intended meaning during task performance. Against these backgrounds, the discussion that follows looks at how the two hypotheses have been applied to the work of the present study.

The narrative writing tasks employed in the present study have been designed to impose complexity demands at both the conceptualization and linguistic formulation stages. For instance, a sequence of pictures is provided in the first part of each writing task to set the scene and the plot of the story. This eases the cognitive demands at the conceptualization stage, as learners do not need to select and organize relevant ideas for the content of the story (Flower & Hayes, 1981; Kellogg, 1996). However, in terms of linguistic demands, learners are restricted to constructing the story using the predetermined lexical (and, to an extent, grammatical) features set out in the storyline. This may increase the processing demands at the linguistic formulation

stage, as learners need to tap into their limited L2 linguistic resources to articulate their thoughts. In other words, following both the Cognition Hypothesis and the Trade-off Hypothesis, the complexity demands for the first part of the narrative writing task are focused on the linguistic formulation stage, i.e., learner attention is allocated to meet the linguistic demands of the task. Moreover, as pointed out by Skehan (2009) in his comparison of the use of less frequent lexis in narratives and decision-making tasks, narratives are more likely to cause L2 learners to employ “less frequent lexis, presumably as they are responding to the events within the narrative” (p. 517). This implies that this stage of L2 production may pose more problems for learners with limited English proficiency, as they may need to pay more attention to lexical encoding in the composing process. For the second part of each writing task, learners are required to devise their own ending to the story. This may lead to learners exerting greater cognitive effort at the conceptualization stage. On the other hand, they can tailor the text to match their available linguistic resources. What this means is that learners have the flexibility to modify the plan that they have conceptualized when they encounter a lexical or structural problem as they are formulating the story. Here, they can circumvent the use of complex syntactic structures and lexical items that they are less familiar with. In this way, the second part of the task may potentially reduce the processing demands at the linguistic formulation stage.

Of particular relevance to the present study is how support can be given to L2 learners at the linguistic formulation stage, in order to help them cope with language production when they perform a cognitively complex task. While the Cognition Hypothesis does not make explicit mention of the provision of linguistic support to L2 learners during task performance, since it posits that cognitive-conceptual demands in a complex task naturally activate the most appropriate linguistic forms in the learner’s repertoire, even if these are at the leading edge of the learner’s level of complexity, Skehan et al. (2012), within the framework of the Trade-off Hypothesis, maintain that the competition for attentional capacity can be overcome to a certain extent such that L2 learners are able to achieve accuracy and complexity in their language production if given supportive conditions during task performance. They propose the use of

dialogic tasks, carefully organized teacher-led planning to prime relevant lexical items, and opportunities for repetition of language prior to the actual performance, in order to ease lexical retrieval. In addition, to facilitate the process of syntactic encoding, the use of dialogic tasks, structured tasks (with clear organisation), pre-task planning time to focus on syntax building and opportunities to rehearse language for subsequent performance are proposed to promote greater accuracy and complexity of L2 learners. Importantly, according to Skehan et al. (2012), these tasks that focus on facilitating lexical retrieval and syntactic encoding at the linguistic formulation stage can potentially create conditions for the activation of knowledge. They enable learners to access and exert more control over their already established interlanguage system during task performance through processes such as repertoire creation, automatizing and achieving supported control. Tasks that entail complexifying/pressuring influences, on the other hand, with appropriate support, are likely to create conditions for the construction and analysis of knowledge via processes such as noticing and hypothesizing.

Interestingly, a number of the easing/focusing influences which Skehan (2009; also Skehan, et al., 2012) proposes to direct learners towards greater accuracy coincide with the resource-dispersing variables described in the Cognition Hypothesis (e.g., planning time, providing a clear task structure). Whilst Robinson (2001a, 2001b, 2007a; also Robinson & Gilabert, 2007) concurs with Skehan that reducing these influences (e.g., not giving planning time) can result in a decrease in accuracy, fluency and complexity of learners' L2 oral language production, for Robinson (2001a, 2001b, 2007a), these resource-dispersing variables do not direct learners' attentional resources to L2 linguistic forms in the way that resource-directing variables do. Thus, it is possible that during task performance Skehan's easing/focusing influences (or Robinson's resource-dispersing variables (c.f. Robinson, 2011a, p. 17)) ease the retrieval of lexical and syntactic information that is already available in learners' mental lexicon as learners focus on task completion, but these influences or variables do not necessarily draw learners' attention to specific linguistic forms. Possibly, as predicted by Skehan, this leads to greater accuracy, though the beneficial effect may only be experienced by L2 learners who possess a level of proficiency

sufficient for them to complete a complex task. This deduction makes sense as, thus far, most research on task complexity has focused on adult L2 learners who were by no means beginner-level learners of the target language (e.g., Gilabert, Barón, & Llanes, 2009; Kim, 2012; Peters, 2007; Révész, 2011; Robinson, 1995; Skehan & Foster, 1999).

In the context of task complexity, little has been said about providing explicit written linguistic help to learners, in particular those with limited L2 exposure, when they work on a cognitively complex task in the target language. Also, most task complexity studies have tended to investigate oral language production. The next section explores how the concept of linguistic assistance may fit into the construct of task complexity, in order to compensate for the limited linguistic resources of L2 learners. This is examined from the context of young learners with limited ESL exposure. While providing opportunities for dialogic interaction during task performance, or allowing learners to rehearse language for subsequent performance, for instance, may be helpful to get learners to engage meaningfully in English, they may not be sufficient to enable young ESL learners to attend to both the cognitive and the linguistic demands of a complex task, due to their limited linguistic resources. When “pushed” to communicate once they are already at the limit of their attentional capacity, these learners tend to either produce non-targetlike language or fall back on their first language. Agustín Llach (2010), for instance, conducted a study that involved 203 Grade 4 Spanish learners of English (ages 9 and 10) to investigate how young learners compensated for their lack of lexical knowledge when writing an L2 composition. Four years later, the same group of learners (Grade 8, ages 13 and 14) was asked to write another composition in the L2, and the mechanisms they resorted to when they were unable to come up with the lexical items they needed, in order to communicate their written message were again examined. Results revealed that when they were in Grade 4, learners were more likely to resort to L1-based mechanisms, such as borrowings (i.e., substituting the English words they do not know with their Spanish L1 equivalents) and calque (i.e., literally translating the words from their Spanish L1), than when they were in Grade 8. In Grade 8, as learners had gained proficiency in English, there was a significant decrease in their use of L1-based

mechanisms. In addition, there was an increase in their use of L2-based mechanisms (e.g., formal approximation, i.e., the use of L2 words that are similar either in spelling or in sound, and semantic approximation, i.e., the use of L2 words that are semantically similar but functionally different) in their L2 written compositions. This study shows that when learners are unable to express their intended meanings in the target language in a communication process, there is a tendency for them to rely on their L1 to compensate for their inadequacy in L2 linguistic resources. In order to fill this gap, linguistic assistance, which is described in the next section, is proposed to facilitate L2 language production at the linguistic formulation stage. In this way, learners may be able to devote their attention to both the cognitive and linguistic demands of written tasks.

2.4 Linguistic assistance to support learners in cognitive complexity of tasks

From Section 2.3, three points can be drawn: first, cognitive complexity of tasks can affect language production of L2 learners; second, to date, the proposed support for L2 learners at the linguistic formulation stage appears to have aimed only at retrieving acquired L2 lexical and grammatical information from learners' mental lexicon; and third, there is still a need to investigate how learners, in particular those with limited L2 resources, can be provided with explicit linguistic support, in order for them to be able to cope with the linguistic requirements of a cognitively demanding task.

Linguistic assistance is the term used in the present study to refer to a list of potentially relevant words, expressions or paragraphs of text given to learners, in order to help them express their ideas in the target language as they engage in writing and/or negotiated interaction in a task. In tasks where the language required is beyond learners' current level of proficiency, by providing learners with positive evidence, or "information about what is possible within a language" (Gass & Mackey, 2007, p. 177), written linguistic support can potentially reduce the attentional resources allocated for the linguistic demands as learners attempt to meet the cognitive demands of the tasks. In addition, through linguistic assistance, learners can be exposed to new words or

linguistic forms that they need, in order to meet the demands of the task. Likewise, if there are words or linguistic forms that learners already know but do not possess full control over their use, linguistic assistance can aid lexical retrieval and sentence construction. In this way, as learners focus on linguistic encoding of the task content at the linguistic formulation stage and attend to specific linguistic forms that are required for task completion, linguistic assistance allows learners to choose from the linguistic support that is offered that which is most appropriate to their needs, such that it builds on their existing resources and enables appropriate L2 production. It can ease linguistic encoding in the Formulation (Levelt, 1989) and Translating processes (Flower & Hayes, 1981) because it is presented as a form of support rather than overt error correction, and thus does not disrupt or intrude upon the ongoing cognitive processing of the task content. Importantly, it is employed by learners on the basis of their need and choice to develop their thinking and the construction of their story. This implies that information from linguistic assistance, be it words, expressions or linguistic forms, can be integrated into the language production in progress.

In the context of task complexity, then, the role of linguistic assistance is one of support for language production, and it does not render the task more complex. Contrariwise, by easing learners' articulation of thoughts and intentions into L2 spoken or written language, it may allow more attentional resources to be allocated to cognitive processing of the task content. If this is the case, learners may even be able to devise more cognitively sophisticated solutions. Considered in the light of Trade-off Hypothesis, which claims that the more cognitively demanding the task, the less accurate or complex the language production, linguistic assistance may fall under Skehan's (2009) *easing/focusing influences*. This is because these influences are said to reduce the processing demands of tasks, and linguistic assistance may lower the complexity of tasks when learners do not have to engage in the processing implied in retrieving lexis and/or grammatical structures that are at the low-frequency or leading edge of their ability. However, Skehan et al. (2012) also state that tasks that entail easing/focusing influences may facilitate lexical retrieval and consolidation of existing interlanguage resources, but these, unlike tasks with

complexifying/pressuring influences, do not promote the construction and analysis of knowledge. Yet the linguistic assistance undertaken in the present study may lead learners to construct and/or analyse knowledge, because it potentially enables them to notice either their own L2 inadequacies as they attempt to produce the intended output, or the disparity between the target language and their own production, when they select from the written linguistic support what is most appropriate to their needs for task completion. In other words, linguistic assistance may ease lexical and syntactic encoding and promote noticing. From the perspective of the Cognition Hypothesis, which posits that it is the cognitive demands of a task that drive learners' linguistic performance (i.e., the more complex the task, the more accurate and complex the production), linguistic assistance does not fit in either of Robinson's (2001a, 2001b, 2007a) resource-directing or resource-dispersing dimensions of task performance, as linguistic assistance is not concerned with the cognitive-conceptual or performative-procedural aspect of tasks. Instead, it offers the potential to lessen the attentional resources allocated for linguistic encoding at the linguistic formulation stage. This may result in greater accuracy and/or complexity in learners' L2 linguistic performance. Put simply, linguistic assistance has the effect of facilitating L2 production. With learners engaging linguistic assistance in their discussion and/or written output, it may enhance the quality of task outcome in terms of both cognitive and linguistic complexity.

The provision of opportunities for learners to engage with written linguistic support in a cognitively complex task is different from the provision of contextual support in a task. Whereas the former is likely to directly address the linguistic demands of the task, the latter is more prone to affect the cognitive processes involved in task production, thereby creating an inherent subsequent impact on the linguistic demands during performance. The provision of written linguistic support is also different from giving learners a model text after they have completed the writing of their first draft. Here, the native speaker model text serves as reformulation, a form of direct feedback, and learners are usually required to compare their original writing with the reformulated version, in order to notice and reflect on the use of problematic linguistic forms (e.g., Adams, 2003; Hanaoka, 2007; Lapkin, et al., 2002; Qi & Lapkin, 2001; Storch &

Wigglesworth, 2010). In such cases, the model text is presented to learners as a form of correction rather than support.

There have been several studies that examined the effects of providing contextual support during tasks on learners' L2 performance. In Robinson's (1995) study, for instance, wordless comic strips were used to elicit oral narratives in the present tense from twelve adult L2 learners of diverse language backgrounds (such as Japanese, Korean and Indonesian). These comic strips were removed in the more complex contextual-unsupported condition and the learners were required to narrate the stories in the past tense. The two sets of performances were compared in terms of fluency, accuracy and complexity. Following Robinson's operationalisation of contextual support as availability versus unavailability of the visual support during task performance, Gilabert (2007) too employed wordless comic strips in his study, which was conducted with 48 Spanish L1 university learners of English, to find out the effects of contextual support on L2 oral narrative production, in relation to the availability of planning time. Ishikawa (2007) focused on the L2 written narrative production of 54 Japanese L1 high school learners of English, again investigating contextual support using a wordless comic strip. Results from all three studies revealed an effect on contextual support for accuracy of L2 production. However, in these studies, the condition in which learners had to perform a task in the absence of contextual support was more complex on two counts: first, L1 and L2 acquisition findings have shown that the ability to use displaced, past time reference emerges later than the ability to describe the present events, and in this respect, requiring learners to narrate a story in the past tense is considered as more complex (Robinson, 1995); and second, by removing the picture prompts during narration, the narration task imposes upon the learners an additional effort to memorize the details of the prompts. Révész (2009) argues that because learners were subjected to the dual demands of narrating a story in the past tense and from memory, such an operationalisation of contextual support makes it difficult to determine whether it was the difficulty of the linguistic forms or the removal of the visual support that resulted in the effects observed. In Révész's study of the effects of contextual support, compared with recasting, on the L2 morphosyntactic

development of 90 adult Hungarian L1 learners of English, Révész opted for photos instead of pictures. Learners were asked to describe all the activities in the photos to the researcher using the past progressive form whether the task was performed in the presence or absence of a photo. Her analysis indicated that recasts afforded greater positive effects for L2 morphosyntactic development than contextual support.

In another experimental study, Tavakoli and Foster (2008) used contextual support to examine how task structure and storyline complexity can influence L2 oral performance. Cartoon strips with different degrees of narrative structure (loose or tight) and storyline complexity (with or without background events) were employed to elicit oral narratives from 40 learners of English of diverse language backgrounds based in London and 60 Iranian L1 learners of English in Tehran. Through the use of picture prompts, the study was able to show that tightly structured narratives (i.e., stories with events that are presented with a clear time sequence following an introduction-problem-resolution pattern) increase accuracy, while narratives that require the integration of foreground and background information enhance syntactic complexity. Contextual support was also used differently in Kormos's (2011) study, which involved 44 Hungarian secondary school learners of English. Here, learners had to complete two written narrative tasks, one in the form of a comic strip where the storyline was set, and the other in the form of six unrelated pictures from which learners had to create their own story. The less demanding narrative task, using the comic strip, triggered learners to use more abstract vocabulary and temporal connectives in their writing.

The examples cited above demonstrate how contextual support, which in most of these cases was pictorial support, can influence the cognitive complexity of tasks. These studies, and many more, did not investigate additional linguistic assistance specially incorporated into communicative tasks to help L2 learners produce the target language. There have only been a few studies that have examined textual support included in tasks, and such textual support can offer learners some means of linguistic support, even though it is often not built into the task to ease the communicative burden of learners at the linguistic formulation stage. An example is Swain and

Lapkin's (2001) study, which compared the effects of using pictorial support in a two-way information gap activity and learner-generated textual support (which were key words written by learners themselves as they listened to a native speaker model text dictated to them) in a dictogloss task. Although the key words, technically derived from the native speaker model text, can be regarded as textual support to help learners to formulate the content of the dictated text and to focus on specific linguistic forms, they are, nevertheless, produced by learners under time pressure (as the key words are taken down during a listening activity). Further, because learners are not shown the original text, the accuracy of the words recorded by them remains questionable. In this sense, the learner-generated textual support may not be the best form of linguistic assistance. Taking account of learner difficulty in terms of memory capacities, Eckerth (2008), in a study examining learning gains of learners working in dyads on dictogloss and text repair tasks, provided written keywords in dictogloss tasks for 31 university learners of German as a second language (speakers of different L1 backgrounds such as Slavic, Arabic, French, Korean and Spanish). How effective these keywords were as linguistic support *per se* to help learners reconstruct the text in dictogloss, however, could not be verified, because Eckerth did not compare learner performance in the two task types.

In a study focusing on written language production, Ong and Zhang (2010) explored task complexity in terms of the availability of previous drafts, in addition to the availability of planning time and the provision of ideas and macrostructure. 108 Chinese L1 learners of English as a foreign language were asked to produce argumentative texts, and their written performance was analysed on the basis of fluency and lexical complexity. Of particular interest to the present study is the condition of availability versus unavailability of first drafts when learners were asked to write their second drafts. In a way, previous drafts, being available, can be regarded as a form of textual support because they can ease not only the organisation and elaboration of ideas, but also lexical and syntactic encoding of learners' semantic intents in subsequent drafts. The absence of the first drafts was therefore considered by Ong and Zhang to be cognitively more demanding as they required learners to retrieve from memory the content, organisation and

language aspects of their first drafts. The results of the study showed that this condition had no effect on the fluency and lexical variety of writing. This implies that the learner-generated first drafts, on which no feedback or external assistance was given, do not appear to offer much linguistic support for more accurate or complex constructions.

So far, based on the two examples of studies by Swain and Lapkin (2001) and Ong and Zhang (2010), it can be seen that contextual support when provided in the form of text may not necessarily provide adequate linguistic support for learners. One reason for this may be that textual support was not presented to learners as additional linguistic assistance to which they could refer during language production; rather, the learner-generated text was produced as part of task performance by utilizing their own existing linguistic knowledge. Given learners with limited L2 proficiency, such production may not be sufficient to meet the linguistic demands of the task, and hence becomes inappropriate textual support for the subsequent actual performance. One study conducted by Robinson (2007b), with 42 Japanese L1 university learners of English, was found to provide some form of additional linguistic assistance for learners during task performance. Termed as *premodified task-relevant input*, the written linguistic support was incorporated into narrative tasks that were employed to examine the effects of varying degrees of intentional reasoning (simple, medium and complex) on interaction and L2 oral production. The primary focus of Robinson's study was, therefore, not on the provision of support in the task materials. Learners in dyads were asked to work out the correct order of a picture strip sequence and narrate the story to their partner. Premodified task-relevant input was given in the form of six phrases in English (each phrase accompanied by a Japanese translation) following the sentence constructions of: Verb (present continuous) + Object; and Subject + Verb (3rd person –s morpheme) + Adverb. Learners were given the choice to use the phrases they thought were helpful in their story construction, and their use was taken as a measure of uptake of linguistic forms. Uptake, then, was operationalised as “use of premodified input provided proactively in the materials used to support task performance” (p. 196). Results of the study showed that there was

more partial uptake of task-relevant input in the cognitively more demanding tasks than the simpler ones. This has three implications for the present study:

- (i) Partial or exact uptake in Robinson's (2007b) study is evidence of learners, even at tertiary level, needing additional L2 linguistic assistance during task performance. It was found that learners were more inclined to use such linguistic assistance provided in the task material to support their performance when they encountered a complex task. This finding is much in line with the assertion put forth earlier in this section that linguistic assistance can facilitate L2 production, as it potentially eases the attentional resources allocated for linguistic encoding at the linguistic formulation stage without compromising the cognitive complexity of a task.
- (ii) With help provided at the phrasal level, learners in Robinson's (2007b) study tended to opt for more partial uptake (i.e., the phrase used is altered, possibly by omitting or substituting some of its elements) than exact uptake (i.e., the exact, unaltered phrase is used) when they performed a complex task. This may mean that these learners have not found whole phrases useful, and as a result, have chosen to use only some words within a phrase to verbalize their thoughts. It may also be that the phrases provided were not complete sentences, and the learners might have felt the need to alter them so that they fit into their sentence construction (in terms of semantic intent, word choice, syntax and textual connections). A question of interest here, then, is whether learners find linguistic assistance provided to them at the word level or textual level (paragraphs) more beneficial in their L2 production.
- (iii) For L2 oral production, because Robinson did not remove the written linguistic support removed during task performance, it was practical to provide phrases only (as opposed to full sentences) to learners, in order to avoid direct copying or reading of the text. For L2 written production, on the other hand, as in the case of the present study, young ESL learners may need more linguistic help. To this end, learners can be provided with longer texts from which they select words or expressions that they find useful for their story

construction. With the original text removed and only the learners' selected words or expressions available, learners can then narrate the story based on their choice of the written support.

The focus of the provision of linguistic support in Robinson's (2007b) study is very different from that in the present study. Robinson investigated how L2 learners used the phrases provided in their oral language production when performing a cognitively complex task, analyzing this as a measure of uptake. The present study goes a step further and examines the potential impact of varying degrees of linguistic assistance (basic and enhanced) on the quality of task outcome. It is postulated here that when learners engage with linguistic assistance while attempting to produce the target language, it may enhance their L2 task performance in terms of both cognitive and linguistic complexity.

Taking a slightly different perspective, but still in relation to the allocation of attention during task performance, when learners engage with linguistic assistance in their discussion and/or written output, that is, when they search, select and use their choice of words or expressions in context, there is a level of cognitive processing involved. Initially, learners will have to be aware of the limitations in their vocabulary or linguistic knowledge that can affect their task performance and to consciously seek support in the linguistic assistance provided. This may direct learners' attention to the disparity between the target language and their intended output, and they may also focus more closely on aspects of the written linguistic assistance that help resolve their linguistic problems in production. In this way, linguistic assistance can induce learner involvement that may lead to noticing and elaborate processing of words (and possibly linguistic forms), and this may affect the subsequent retention of those words (or structures). Such task-induced involvement is the construct examined by Hulstijn and Laufer (2001) in their Involvement Load Hypothesis. The hypothesis proposes that it is the degree of focused cognitive effort and attention exerted by learners when processing new words in a given task that determines success in learning those words.

According to Hulstijn and Laufer (2001), there are three main components to the motivational-cognitive construct of *involvement*: *need*, *search* and *evaluation*. *Need*, which concerns the desire to use an L2 word, in order to achieve the task goal, is a non-cognitive, motivational component of involvement. *Search*, a cognitive component of involvement, involves finding an L2 word form (from, for instance, an L1 translation) or the meaning of an unknown L2 word. *Evaluation*, another cognitive component of involvement, entails comparing an L2 word in terms of its meaning and/or use in context to other words, and making a decision on the appropriateness of that word during task performance. Therefore, if considered within the framework of the Involvement Load Hypothesis, the provision of linguistic assistance in a written narrative task, as in the case of the present study, appears to have a high involvement load. The need component is strong because it is self-imposed by learners, that is, learners themselves choose to use certain individual words in their story construction. The search component may be present when learners are involved in collaborative interaction with their peers and have the opportunity to discuss the meaning of unknown L2 words or the L2 equivalents of L1 words. The task induces strong evaluation because learners decide how additional words will combine with their selected words in a learner-generated text.

A number of empirical studies have investigated how learners' focused cognitive efforts impact the learning of L2 words. Hulstijn and Laufer (2001) conducted a study with 97 learners in the Netherlands and 128 learners in Israel; both groups were advanced university learners of English as a foreign language in their respective countries. The researchers found that learners performing the composition task that involved the production of target words had the highest retention of new words when compared to learners performing the reading comprehension task with marginal glosses and those performing the comprehension task plus filling in the target words. The composition task, which required learners to use the target words in an original learner-generated context, was considered to have the highest involvement load. Results were thus interpreted as the greater the task-induced involvement load (i.e., the higher the level of learner involvement), the better the retention of new vocabulary items. These findings were

replicated in a study by Kim (2011) with regard to the initial learning and subsequent retention of target words by 64 adult ESL learners (of diverse language backgrounds) with different proficiency levels, even after controlling for time on task. In a second experiment, Kim further compared the performance of twenty adult ESL learners on two tasks (i.e., writing a composition and writing sentences) which, in principle, shared the same degree of involvement load, even though writing a composition may be, on the whole, cognitively more demanding than writing sentences. It was found that both tasks resulted in equal levels of performance in terms of vocabulary learning. In another experimental study which involved 32 Chinese university learners of English, Nassaji and Hu (2012) examined the relationship between task-induced involvement load, L2 learners' use of lexical inferencing strategies (e.g., contextual guessing, evaluating, monitoring) and subsequent retention of correctly inferred words. Learners who read a derivational text (i.e., the text with the highest involvement load) were found to have better retention of the words they had correctly inferred than those reading an unmodified text and a text with multiple choice glosses. These results, along with those of the two previous studies, provide support for the Involvement Load Hypothesis, in that tasks that require more cognitive effort and attention (i.e., a higher level of learner involvement) promote L2 vocabulary learning. What this implies for the present study is that the provision of linguistic assistance in a written narrative task, given its high involvement load, may motivate learners to develop a higher level of L2 vocabulary (and possibly grammatical) knowledge in their writing. Such increase in vocabulary (and linguistic forms) may, in turn, have positive consequences on the overall quality of their L2 written performance.

Up to this point, I have only looked at linguistic assistance and how it can support learners in managing task complexity during L2 production. I have also considered how its use can induce a degree of cognitive processing in learners during task performance. Nonetheless, linguistic assistance is only one of the key components in the present study. The other is peer interaction. According to Robinson and Gilabert (2007), increasing the cognitive demands of tasks will “promote interaction, and heightened attention to and memory for input, so increasing learning

from the input, and incorporation of forms made salient in the input” (p. 162). The emphasis on input from interaction here, and how it may lead to learning, is an indication of how important a role interaction plays in L2 task performance. However, instead of merely looking at how task complexity influences interaction, this study again goes a step further by also examining how peer-mediated assistance via dyadic interaction may facilitate task outcome. In other words, it looks at not only how the cognitive complexity of tasks (with differing degrees of linguistic assistance) can affect peer interaction, but also how peer interaction may influence the quality of L2 performance. This is discussed in Sections 2.5 and 2.6.

2.5 Interaction in the context of young learners

Although the use of interaction between learners has been widely adopted in L2 oral and written tasks, it remains unclear how effective the practice actually is. One reason for this reservation is a question over the capability of novice L2 learners to provide linguistic support to one another during task performance, given their limited L2 linguistic resources. Even though two meta-analyses based on several L2 interaction studies have been undertaken and have found positive evidence for the acquisition of lexis and grammar of the target language when learners engaged in negotiations (Keck, et al., 2006; Mackey & Goo, 2007), it is not certain that the results would be the same if the meta-analyses included only studies involving NNS-NNS interactions. Moreover, interaction research conducted with young learners (below the age of 13) was excluded from the two meta-analyses. This again leaves in question the efficacy of peer interaction in promoting L2 performance, particularly in the context of young learners with limited ESL exposure, as in the case of the present study.

While they are not as extensively researched as adult L2 learners, there are, nonetheless, a number of studies that have focused specifically on young learners and how they afford opportunities for L2 development through interaction with others during task performance. Such studies are important because they acknowledge the unique nature of child second language acquisition. In fact, not surprisingly, some of these studies have identified notable differences in

the interaction of adult dyads and child dyads. Mackey, Oliver and Leeman (2003), for instance, found that the subset of 24 young ESL learners allocated for NNS-NNS interaction in their experimental study produced significantly more modified output than the 24 adults in NNS-NNS interaction. Their data also showed that the amount of negative feedback (i.e., responses to non-targetlike utterances) and opportunities to use the feedback provided in child dyads were comparable with adult dyads. Oliver (1998, 2002) too compared the interaction of adult dyads and child dyads in her investigation of child interaction (ages 8 to 13) and found that they differed in the number of negotiation strategies used during peer interaction: young learners employed far fewer comprehension checks than did adults and tended to rely heavily on self and other-repetition. This, according to Oliver, may be interpreted as a developmental effect, in that young learners, being egocentric, are more concerned with constructing their own meaning than clarifying meaning for their partner. Pinter (2006), in her study which compared the verbal interaction performance of twenty children (age 10) and ten adults, all Hungarian L1 beginner-level learners of English as a foreign language, working in pairs on communicative tasks, also noted differences between adult dyads and child dyads in terms of the cognitive strategies (e.g., selecting a systematic or random approach to finding resolutions in a task), metacognitive strategies (e.g., monitoring the efficacy of the selected approach), social strategies (e.g., providing prompts to help a partner) and compensatory strategies (e.g., using alternative ways to describe items that they do not know the word for) that they employed during task performance; child dyads were more likely to employ less sophisticated strategies. Given that the ways in which young learners approach a communicative task and interact with their peers are different from those of adults, these findings demonstrate that age has implications for task-based interaction and L2 development, and hence, it may not be easy to generalize research findings based on studies of adult L2 learners to young learners.

Of relevance to the present study are children in middle childhood, i.e., between ages 7 and 11. Children at this stage are able to view language metalinguistically and make use of their analytic abilities to focus on linguistic forms of a language (Philp, Mackey, & Oliver, 2008). Through

close examination of interactional features such as recasts, clarification requests, comprehension checks, confirmation checks and modified output, several studies have revealed positive relationships between task-based interaction and L2 development for young learners. For example, Mackey and Oliver (2002), in their experimental study which involved 22 young ESL learners (ages 8 to 12) interacting in dyads with adult NSs when performing five different communicative tasks, found that young learners who were provided with interactional feedback showed greater improvement in their formation of English questions than those who interacted but did not receive feedback. This study was replicated by Mackey and Silver (2005) with 26 young Chinese L1 learners of English in Singapore (ages 6 to 9) and they reported similar positive results between the provision of interactional feedback and L2 development of question forms. On the other hand, Van den Branden (1997), who conducted a study with 48 young learners of Dutch (ages 11 and 12) to investigate the effects of negotiated interaction on learner output, did not find any improvement amongst learners who were in the interaction conditions (i.e., interaction with either the researcher or an NS peer) in terms of syntactic complexity or grammatical accuracy. Most of the child NNS learners were speakers of their home language, Berber, and they had been following the mainstream education in Dutch since kindergarten. The researcher did, however, observe that learners who were pushed in negotiations subsequently produced a greater range of vocabulary and higher quality output than those who were not pushed. From the mixed results of the above-mentioned studies, it is difficult to see how exactly young learners benefit from NS-NNS interaction in regard to their L2 development.

In the case of NNS-NNS peer interaction involving young learners, Oliver (1998, 2002) observed that the subset of 32 age- and gender-matched NNS-NNS dyads (ages 8 to 13) in her study employed a variety of negotiation strategies in their discussions. They also tended to produce more clarification requests than their NS-NNS counterparts. When she compared the interaction performance of child NNS-NNS with NS-NNS dyads, she also found that there were more occurrences of negotiation for meaning in NNS-NNS dyads than NS-NNS dyads. These, according to Oliver, may be indicative of more communication breakdowns occurring in NNS-

NNS interaction and as a result, more negotiation for meaning and clarification requests are necessary to overcome the linguistic problems. Also, it was observed that in NS-NNS interaction, there was a greater tendency for child NNSs to relinquish control of the discussion to an NS partner than to an NNS partner (Oliver, 2002, p. 106). It could be argued here that in NS-NNS dyads, learners probably regard their NS partner as a provider of input, whereas in NNS-NNS dyads, learners may see their NNS partner as being a co-problem-solver of the task at hand. If this is the case, then more negotiation of meaning is likely to take place in NNS-NNS interaction.

In a study which involved 40 young ESL learners (ages 7 and 8) from a variety of L1 backgrounds (such as Afghan, Arabic, Farsi, Indonesian, Romanian, Thai) performing communicative tasks in dyads, Mackey, Kanganas and Oliver (2007) found that when faced with unfamiliar tasks, these learners tended to use more clarification requests and confirmation checks to arrive at a common understanding of how to solve the task at hand. They were also inclined to impart more corrective feedback on non-targetlike utterances to their partner. On the other hand, when they were working on tasks that they were familiar with, these young learners showed a significantly higher proportion of use of interactional feedback, and this often led to modifications in their own output. The researchers argue that this is because learners may be willing to take more “linguistic risks” when they are familiar with the content of a task (p. 301). What is interesting about this study, and all the studies in this section, is the fact that young learners are capable of negotiating for meaning whether they are interacting with an adult or another child, NS or NNS interlocutor and that they can gain from the feedback provided to them during the interaction. In other words, peer interaction provides learning opportunities even for young learners. However, again, the precise effects and benefits of interaction on L2 learning remain uncertain. In addition, negotiation for meaning is only one aspect of interaction. Instead of focusing solely on negotiation strategies and modified output that occur during communication breakdowns, it may be helpful to also look at other aspects of interaction when examining how young learners use talk during peer interaction.

As noted earlier in Section 1.1 (Chapter 1), appropriate interaction with peers may afford opportunities for learners to integrate L2 linguistic knowledge into their existing interlanguage system as they pool their resources during discussion. Where there is a discrepancy of opinion, learners are likely to reflect on their own assumptions, then articulate and explain their stance and intent, and this may lead to a reevaluation and possibly an adoption or adaptation of their own ideas in view of the new information from their peers. The nature of peer interaction in the present study refers specifically to a task that requires some form of collaboration between learners. According to Damon and Phelps (1989), collaboration involves peers of approximately equal competence working together to solve a problem, who in doing so, “create an engagement rich in mutual discovery, reciprocal feedback, and frequent sharing of ideas” (p. 13). From this definition, it is clear that not all interactions can bring about such productive peer discussion. Mercer and Littleton (2007) distinguish three types of talk in learner interaction: (i) *disputational talk*, or talk in which learners assert and counter-assert their own opinions, often without offering explicit reasoning; (ii) *cumulative talk*, or talk in which learners offer positive comments but do not engage critically with their peers’ ideas; and (iii) *exploratory talk*, or talk in which learners critically but constructively explore and clarify each other’s ideas. Exploratory talk is most apt to result in peer collaboration, and is identified as the most useful in terms of enhancing learners’ cognitive development.

In his school-based interventional research involving more than 700 children aged between 6 and 13 years in the UK, Mercer (2000, 2008) showed how peer interaction facilitates children’s intellectual development through exploratory talk. The intervention consisted of a series of Thinking Together lessons which was designed to develop children’s understanding and use of dialogue as a tool for learning. Children in the experimental group were taught to engage in exploratory talk, while children in the control group received no treatment. After several months of intervention, it was found that children in the experimental group, who used more exploratory talk, outperformed those in the control group in Raven’s Progressive Matrices (a general measure of nonverbal reasoning) as well as in mathematics and science tests. Webb and Treagust (2006)

conducted a similar study with Grade 7 L2 learners in twelve schools in Eastern Cape Province, South Africa. They also found that learners in the experimental group who were taught to use exploratory talk as they participated in science discussions performed significantly better than learners in the control group in the Raven's Progressive Matrices posttest. Both studies emphasize the importance of using specific classroom dialogue to develop children's thinking and learning.

In another study which involved 100 Year 2 young learners (ages 6 and 7) performing a card sorting activity either individually or in dyads, Fawcett and Garton (2005) found that collaborative pair work performed in the absence of verbal interaction was statistically no better than individual performance, and that learners who were required to elaborate their talk by explaining and justifying the sort for their partner to perform during the task showed significant improvement in their performance from pretest to posttest. Such high-level elaboration, which incorporates explanations, clarifications and reasons, can be regarded as an interactional feature of exploratory talk. During elaboration, learners need to organize and clarify their own thoughts while the task partner evaluates their explanation, and in doing so, both may restructure their knowledge and thinking in light of the shared understanding. In this way, learners engaging in high-level elaboration during peer collaboration may experience greater learning gains (Barron, 2003; Fawcett & Garton, 2005; Webb, 1989). In addition, Volet, Summers and Thurman (2009) investigated the level at which learners engage with learning content when they work together to construct knowledge. According to them, not all peer interactions lead to joint construction of meaningful knowledge and understanding, and they distinguish between high-level and low-level content processing. Whereas high-level processing involves content-related discussions that includes elaborations, justifications, inferences, integration of information and help seeking for understanding, low-level processing consists in learner talk entails describing basic facts and definitions without evidence of active meaning making (e.g., reading verbatim from printed material) and without requiring help seeking for details. High-level content processing with all dyadic or group members making verbal contributions (as opposed to having only one

interlocutor in a dyad or group providing information) is considered the most effective form of collaborative learning. Volet, Summers and Thurman (2009) analysed the video-recorded dialogues of eighteen university learners working together in groups of six on a veterinary science assignment over two meetings (the meetings ranged from 18 to 53 minutes). Examining the collaborative, high-level knowledge construction of these learners, the researchers found four factors that sustained group engagement in collaborative discussions of learning content: asking questions that require explanations of content knowledge; displaying tentativeness in explanations, which invites mutual problem solving; pooling task-relevant prior knowledge during discussion; and showing shared positive emotions on the discussions.

On the other hand, learners receiving help in the form of high-level elaboration may not find it sufficient for learning to occur. This is because, as pointed out by Webb (1989) in her analysis of nineteen empirical studies on learning mathematics and computer science in small groups, the elaborated explanations have to be relevant, understandable and applied by the learners receiving them. Her results further indicate that receiving a lower level of elaboration than requested (e.g., receiving only the answer when an explanation is requested, or receiving no reply when information is requested) has a negative effect on learner performance. In other words, the level of assistance provided during task performance needs to correspond to learners' needs and requests for help. These findings are particularly relevant in the context of young learners, as they may be at different levels of development in terms of their communication skills, and as such, they may or may not realize that they have, at times, to adapt their level of interaction to their partner's needs, in order to cater for the partner's requests for help during task performance (e.g., Fawcett & Garton, 2005; Oliver, 1998, 2009; Pinter, 2007). In view of this, the present study explores how assistance is provided between learners during peer interaction, whether there is explicit request for help, and how learners respond to the assistance received. (This will be described in detail in the *Methodology* section.)

Bearing in mind that exploratory talk involves joint critical thinking and reflection on a partner's viewpoint, when considered in the light of narrative writing, it may be more suitably applied

when learners are discussing the linguistic aspect of writing, which includes grammatical features such as verb tenses and connectives, sentence construction, text structure and spelling. Such discussions are particularly suited to exploratory talk because they pose a closed-ended problem-solving situation and have a heavier reliance on explicit reasoning. The linguistic aspect is, however, but one facet of narrative writing. There is also the open-ended creative facet of story construction which involves content generation and reviewing. Here, as Vass et al. (2008) observed in their longitudinal study which was conducted with 24 young English L1 learners (ages 7 to 9), peers tend to use more of their talk to refine, extend or elaborate on ideas, rather than to argue for or justify their viewpoints, in order to facilitate the mutual development of creative ideas during collaborative writing. Such collaborative discourse, not unlike Mercer and Littleton's (2007) description of *cumulative talk*, with learners building on each other's ideas uncritically, appears to be used by young learners "to share new ideas, to link feelings and images and to start off a collective stream of consciousness" (Vass, 2004, p. 85). This means that whereas exploratory talk is useful for learners to evaluate the appropriateness of the language used in relation to the task, collaborative discourse, which is generally employed for content generation and reviewing, is more suited for learners to share, generate, extend and refine each other's ideas. Therefore, in narrative writing these two types of talk may contribute to the collaborative writing process, and need to be taken into account when examining peer interaction of young learners in the context of L2 writing, as in the case of the present study.

2.5.1 Characteristics of young language learners

In order to better understand how young learners cope with task demands during peer interaction, this section addresses their age-related characteristics as language learners. Drawing on the developmental theories of Piaget and Vygotsky, Philp, Mackey and Oliver (2008) distinguish between three phases of childhood in school-age children: early childhood (between ages 2 and 7), middle childhood (between ages 7 and 11) and adolescence (age 12 and above). The main characteristics of these phases of childhood differ in terms of cognitive, linguistic and social

development. For the purposes of the present study, the discussion in this section is confined to the middle childhood phase.

In terms of cognitive development, children in middle childhood exhibit features associated with Piaget's *concrete operational* stage. They are able to think logically (Daniel & Gagnon, 2011), but are yet to be abstract in thinking (Berk, 2013). They also display an increased capacity for problem-solving, in that they are able to take into account multiple aspects of a problem (e.g., McGillicuddy-De Lisi, Watkins, & Vinchur, 1994; Sigelman & Waitzman, 1991). Research in the field of neuropsychology has also shown that children in this age range possess greater attentional resources than those in early childhood (e.g., Brocki & Bohlin, 2004; Gathercole, Pickering, Ambridge, & Wearing, 2004). In fact, in a cross-sectional study conducted by Klenberg, Korkman and Lahti-Nuuttila (2001), which involved 400 three- through twelve-year-old Finnish children, to investigate the developmental sequence of attention and executive functions using ten age-appropriate NEPSY (Neuropsychological Assessment) subtests, it was found that the development of auditory and visual attention reaches relative maturity at the age of 10. This has implications for the types of tasks, as well as the level of task complexity, in which children are cognitively ready to engage. In the present study, for L2 learners in this age range, they are able to cope with increasingly complex tasks that require focused attention and logical reasoning (Muñoz, 2007).

Linguistically, children in middle childhood possess a relatively highly developed L1, and their language is growing in terms of vocabulary size and grammatical complexity (Berk, 2013; Philp, et al., 2008). Their L1 knowledge and strategies may mediate their acquisition of the L2 (Dimroth, 2008; Nicholas & Lightbown, 2008). In the meantime, for children who are also learning content through the medium of the L2, through engagement with a range of L2 texts and tasks in school, they are also expected to build up their linguistic repertoire in the L2, in order to meet the demands of the lessons. This suggests a developmental increment in their oral and written literacy (Menyuk & Brisk, 2005). What this also means is that not only are these young learners more capable of providing, and utilising, linguistic input and feedback when performing

a communicative task, as compared to those in early childhood, but they are also increasingly able to explore written texts and use them as input for discussion during tasks (Philp, et al., 2008).

Interestingly, the ways in which children at this age use language during task performance also differ from those employed by their younger counterparts. In order to determine the developmental changes in the content of self-verbalisations of young learners during task switching, Karbach and Kray (2007) compared the frequency and content of the think-aloud verbalisations (performed in the L1) of 32 five-year-olds with those of 32 nine-year-olds. They found that although the five-year-olds verbalised more often than the nine-year-olds during tasks, these younger children tended to use language to describe perceptions (i.e., naming of objects). In contrast, the older children were more inclined to use the executive function of language, that is, to maintain the relevant task set (i.e., naming of cues and responses), as they switched back and forth between tasks during the experiment. These findings indicate that there are age-related changes in the ways in which children rely on language to plan and regulate their cognitive actions while performing a task. In addition, children in middle childhood are increasingly able to reflect on and analyse aspects of language as they acquire greater metalinguistic awareness. This was reported in Simard, French and Fortier's (2007) study, which examined the relationship between the metalinguistic reflections of 29 Grade 6 French ESL learners (ages 10 to 12) and their L2 learning gains. The young learners in their study were able to, using either the L1 or L2, verbalise rules and generalisations about the target language in a journal-writing task. Thus, based on the two examples of studies by Karbach and Kray (2007) and Simard, French and Fortier (2007), it can be seen that young learners in this phase are capable of utilising language as a tool to facilitate their task performance and to analyse and reflect on their use of language when constructing knowledge.

Another age-related characteristic of middle childhood is the increase in prosocial acts, such as sharing, offering help and cooperating with others, in children's behaviour (e.g., de Guzman, Edwards, & Carlo, 2005; Malti, Gummerum, Keller, Chaparro, & Buchmann, 2012). This means

that compared to early childhood, there is greater potential for dialogic collaboration amongst children at this age when they work through a communicative task together: they are more likely to provide their peers with assistance (e.g., Gagné & Parks, 2013; Pinter, 2007). These young learners are also capable of engaging with their peers' ideas and perspectives during discussion (e.g., Rojas-Drummond, Albarran, & Littleton, 2008; Vass, 2004). For instance, to investigate how young ESL learners negotiate for meaning, Oliver (2002, 2009) conducted two studies comparing the dyadic interactions of children in middle childhood (ages 8 to 13) with those in early childhood (ages 5 to 7), when the two groups of children performed communicative L2 tasks with native and non-native speakers of English. Of relevance here are the results from the two studies which showed that both older and younger ESL learners were able to provide and use corrective feedback, and to modify their output when interacting with their age- and gender-matched peers. Further comparison of the findings of the two studies revealed similarities in the ways in which both age groups used such strategies as self-repetition, clarification requests and confirmation checks to make meaning clear during negotiation for meaning. Where they differed in their dyadic interactions was when the negotiation of meaning concerned taking the perspective of their peers through the sharing of information. The younger learners were found to be less likely than their older counterparts to use strategies such as comprehension checks or other-repetitions (i.e., repetition of partner's preceding utterances) to make meaning clear for their task partners. Oliver (2009) attributes these differences to the egocentric nature of the younger learners. What is clear from Oliver's (2002, 2009) studies is that there is developmental progression of children's social interactive skills with peers, and this influences how young learners approach communicative tasks.

The ability for children to work together has important implications for cognitive and linguistic development. When young learners collaborate to complete a task, they are provided with opportunities to explore their own linguistic resources as they negotiate for meaning. They may receive corrective feedback or other interactional modifications such as clarification requests and confirmation checks from their peers, and subsequently may modify their output in more

appropriate or comprehensible ways. Equally important, through peer interaction, learners are afforded the opportunities to co-construct knowledge as they utilise language as a tool to contemplate their own and their partner's contributions to the task. In this way, peer interaction via collaborative tasks offers children in middle childhood a context and potential for L2 learning. Given the age-related progression in cognitive, linguistic and social abilities, these young learners are increasingly capable of engaging with, and benefit from, tasks which require logical reasoning, focused attention on aspects of language, reflection on language use and collaboration with peers.

2.6 Unraveling the role of peer interaction in L2 learning

While the preceding section provides an overview of how young learners use talk during peer interaction and of their characteristics as language learners, this section concentrates on the use and potential impacts of peer interaction on language development. There are at least three ways in which peer interaction can create opportunities for L2 learning: (i) it can be a source of L2 linguistic input (by providing both positive and negative evidence); (ii) it provides a forum for learners to explore the target language and validate their own linguistic knowledge; and (iii) it presents a means for joint construction of L2 knowledge between learners. Each of these is discussed in the following sections.

2.6.1 Peer interaction as a potential source of L2 linguistic input

According to Pica (1994), opportunities to interact with an interlocutor help learners in at least three ways: (i) learners obtain comprehensible input and get to attend to form; (ii) learners obtain feedback on their own use of the target language; and (iii) learners are prompted to adjust, manipulate and modify their own output. In this regard, cognitive theory emphasizes the importance of L2 input to induce the negotiation of meaning, and the learners' noticing of input and corrective feedback. Learners, as they take part in interactions, are perceived as recipients of input, negotiators of meanings, processors of information and providers of output. In fact, Long (1996, p. 418) defines *negotiation for meaning*, an aspect of interaction, as:

the process in which, in an effort to communicate, learners and competent speakers provide and interpret signals of their own and their interlocutor's perceived comprehension, thus provoking adjustments to linguistic form, conversational structure, message content, or all three, until an acceptable level of understanding is achieved.

This interpretation of interaction allows for the examination of learner talk in terms of, for example, interactional patterns (e.g., request for assistance, recast, acceptance of feedback), negotiation strategies (e.g., comprehension checks, clarification requests, confirmation checks, repetition) and linguistic modifications (e.g., lexical and/or grammatical features) that learners use to negotiate meaning when there is a breakdown in communication. These are taken as indications that learning has taken place, or has been attempted (Gass, 2004). Of particular interest for the present study is the line of research that examines learner interaction, i.e., interaction between learners who are NNSs of the target language. A number of researchers who have examined task-based interactions from a cognitive perspective have found that learners are capable of adjusting and modifying their utterances even when they are negotiating with other learners who are NNSs. Fernandez Garcia (2007), for instance, examined the interactions of 42 beginner-level learners of Spanish working in pairs on two communicative tasks and found that the learners, despite their low proficiency level, were able to provide grammatical input and feedback to their partners by using various forms of modification. In another study, Adams (2007) used tailor-made posttests (which comprise test items that are specifically constructed based on learners' discussions of linguistic forms) to investigate the performance of 25 adult ESL learners (speakers of minority languages such as Spanish, Mandarin, French and Vietnamese) to determine whether feedback provided in learner interactions while the learners were completing three different communicative tasks (focusing on three different structures) was successful in promoting the learning of a specific grammatical item. Her findings were positive, although she suggested that further research is needed to find out if feedback in learner interactions is as effective as feedback in NS-NNS interactions for promoting L2 learning.

Based on the dyadic interactions of eight adult ESL learners, Williams (2001) explored the issue of learner proficiency in relation to learners' ability to overtly attend to grammatical features

when performing different communicative activities. Using language related episodes as the unit of analysis to examine the spoken discourse for instances of explicit focus on language, Williams found that learners in her study did focus on grammatical features in their interactions; however, the frequency of language related episodes was influenced by the learners' proficiency level, with higher proficiency learners more likely to attend to form when engaged in language activities. Lower proficiency learners, on the other hand, were more concerned with maintaining communication and because of that, Williams argues, they were unable to focus on grammatical features as frequently as their higher proficiency counterparts. The findings of Williams's study thus question the quality of feedback provided during learner interactions, in particular those involving low proficiency learners, when they are not provided with additional linguistic support while performing a communicative task.

Gass (1997) provides an Input-Interaction-Output model to propose how the L2 can be acquired through interaction. There are five main stages in the model: apperception, comprehended input, intake, integration and output. Each stage is a prerequisite to further processing in the subsequent stages. The first stage is *apperception*, or "the process of understanding by which newly observed qualities of an object are initially related to past experiences" (p. 4). In other words, a learner needs to be able to relate the incoming input to his or her existing knowledge and linguistic needs (by noticing the gap between his or her current interlanguage and what s/he needs to know), in order for apperception to occur. Gass postulates that the type of interaction (i.e., negotiation or NS modification) also plays an important role in determining whether input is apperceived during the first stage of second language acquisition. During negotiated interaction, the learner's attention may be drawn to the gap in his or her L2 interlanguage system and to the relevant linguistic input from an interlocutor that the learner needs, in order to fill the gap. At the second stage, the *comprehended input* stage, a learner shifts from noticing the linguistic data that s/he encounters in the conversational interaction to analysing the information. Gass argues that it is the level of analysis which the learner achieves at this stage that determines whether input converts to intake. For instance, analysis made at the syntactic level is more useful for intake

than that made at the semantic level because the former entails a more in-depth processing of language. According to Gass, “semantic comprehension is a prerequisite to syntactic comprehension, and syntactic comprehension is a prerequisite to acquisition” (p. 137). What is comprehended, then, becomes *intake* when the learner assimilates the information into his or her developing L2 interlanguage system through the process of hypothesis testing and restructuring.

At the *integration* stage, which involves the development and storage of changes that have taken place in the learner’s linguistic repertoire, intake may become part of the interlanguage system when the learner receives from the incoming input confirmation of a hypothesis that s/he has created, resulting in the addition of new knowledge. The confirmation or rejection of an existing hypothesis based on the new input may also consolidate the learner’s current L2 linguistic knowledge. Alternatively, intake may become stored in the interlanguage system because the learner is uncertain about the hypothesis s/he has created in relation to a word, an expression or a linguistic form. In this case, the stored information awaits further input to confirm the hypothesis. The final stage is *output*, which is seen by Gass (1997) as both “an overt manifestation of [the acquisition] process” and “a means of hypothesis testing” (p. 7). For the latter, the output stage is seen to promote second language acquisition by making the learner become more consciously aware of his or her linguistic problems when producing spoken language, and by prompting the learner to reformulate, test and modify his or her hypotheses upon receiving feedback. Gass’s view on output parallels that of Swain and Lapkin’s (1995), who argue that the role of output in noticing is crucial to second language acquisition as it triggers cognitive processes that lead to output modification, hence pushing learners towards a higher level of proficiency in their target language. Figure 3 depicts a simplified version of Gass’s 5-stage model of second language acquisition.

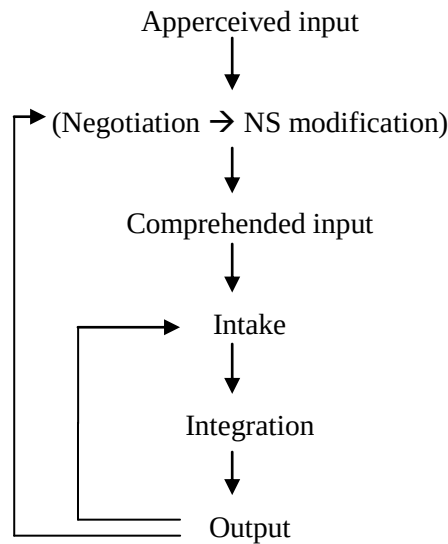


Figure 3. The simplified version of Gass's Input-Interaction-Output model (adapted from Gass, 1997)

Gass's Input-Interaction-Output model is useful for the present study in that its stages are compatible with the cognitive processes that collaborative narrative writing tasks with linguistic assistance intend to predispose learners to engage in. From a cognitive perspective, collaborative narrative writing tasks with linguistic assistance create opportunities for learners to *notice* linguistic structures that either lack saliency or are in infrequent use in classroom discourse. There are at least three levels of noticing which may occur when L2 learners are engaged in meaningful interaction via collaborative narrative writing tasks. The first level is that of *simple noticing*, when learners attend to certain linguistic features of the contextualized input (Schmidt & Frota, 1986). This is similar to Gass's stage of apperception. Other than through incoming input from interlocutors, however, it is proposed here that simple noticing may also occur when learners are attending to items provided in linguistic assistance and are in the process of producing the target language. In this case, learners may analyse the linguistic items at the level of Gass's comprehended input as they decide which words and/or structures to use, in order to express their intended meaning clearly and appropriately.

The stages of intake and integration may occur as learners experiment with new language structures. At the same time, the second level, *noticing the hole*, may take place when learners stretch their interlanguage to meet communicative needs (Swain, 1995, 1998). Here, learners are

pushed to notice their own deficiencies in their current state of linguistic competence while attempting to produce the intended output in the target language. According to Swain and Lapkin (1995, p. 373),

The activity of producing the target language may prompt second language learners to consciously recognize some of their linguistic problems; it may bring to their attention something they need to discover about their second language.

Learners are at the output stage of Gass's model as they use the production phase of narrative writing tasks to reflect on their own linguistic inadequacies. In this case, according to Gass's model, "output necessitates a feedback loop to comprehended input" (Gass, 1997, p. 7). The cognitive mechanisms underlying output processing in language learners are discussed in the next section (Section 2.6.2).

Peer interaction during collaborative narrative writing tasks also allows learners to negotiate meaning as they formulate, reformulate and modify their hypotheses upon receiving feedback. This may, arguably, trigger the third level, *noticing the gap*, when learners compare their current state of linguistic competence in their output and the target language (Schmidt & Frota, 1986). In this output-based approach to collaborative narrative tasks, learners are required to pool their ideas and use the target structure. Where there is marked difference in the level of L2 proficiency between learners, the output of or feedback from the more proficient learners may serve as input for their peers and may possibly even be regarded as target production by them. In this way, the attention of the less proficient L2 learners may be directed to the disparity between the "target" language and their own output. This process of *noticing the gap*, which involves cognitive comparison, tends not only to raise learners' awareness of certain linguistic items (such as pronunciation, vocabulary, grammar), but also to reformulate their hypotheses about the items as they modify their output (Bitchener, 2004).

There are comparatively fewer classroom-based studies on negotiation for meaning and production of modified output that have been conducted with NNS-NNS interlocutors than those that have been conducted with NS-NNS interlocutors, and even fewer still with child NNS-NNS

interlocutors. One potential challenge for having only NNS learners to provide L2 linguistic input during negotiated interaction is the degree of accuracy and appropriateness of learner input. This concern has been raised in several recent NNS-NNS interaction studies. Zhao and Bitchner (2007), for instance, compared teacher-learner with learner-learner interactions in their small-scale study which involved sixteen adult learners of English from diverse L1 backgrounds (such as Chinese, Korean, Russian, Iranian, Sri Lankan) in two intact classes performing ten communicative tasks. One of their findings revealed the presence of ‘no feedback’ (i.e., the inability to provide an answer when a question is posed) and ‘uptake of incorrect feedback’ (i.e., accepting provision of non-targetlike information) in learner-learner interactions. Though not overly pervasive, with ‘no feedback’ comprising 11.8 per cent of the total learner-learner interaction and ‘uptake of incorrect feedback’ making up another 4.9 per cent, their results did point to instances of incorrect feedback being provided during peer interaction and of adult learners failing to respond to a request for help. Moreover, in the case of ‘no feedback’, without receiving further appropriate input from an interlocutor during discussion, especially when there is an explicit request for one, learners may not be able to evaluate the accuracy and appropriateness of their own utterances and this makes it difficult for them to advance their L2 performance (Mackey & Oliver, 2002; Mackey & Silver, 2005; Webb, 1989).

As noted earlier in this section, Adams (2007) reported positive findings for L2 development of the 25 adult intermediate-level ESL learners in her study using tailor-made posttests; however, the posttest results also showed a small number of instances of learners learning errors from their partner, particularly when their attention was directed to the linguistic problem during discussion and both learners jointly resolved to use a non-targetlike form. Adams thus cautions that “learners can acquire forms presented in feedback episodes with their peers. If miscorrections occur, this learning may not always occur in the direction of the target” (p. 49). Fujii and Mackey (2009), in a small-scale study which involved sixteen Japanese L1 university learners learning English as a foreign language performing two open-ended decision-making tasks in dyads, observed not only a low frequency of interactional feedback in NNS-NNS interaction, but also

occurrences of learner-generated non-targetlike utterances during task performance that were taken up as positive evidence by other learners. Findings from these three studies, whilst specifically demonstrating that interaction between learners may promote the learning of a target language, also allude to a general need for additional linguistic support, be it from a teacher or written linguistic assistance, to be made available to learners, particularly those with restricted L2 linguistic knowledge, not only so that their attention may be drawn to noticing the disparity between the target language and their own output, but also so that they are able to provide more accurate and appropriate interactional feedback as input on L2 linguistic forms and meaning to their partner during peer interaction.

2.6.2 Peer interaction as a forum for exploring the target language

When peers participate in dyadic interaction, they are, in one way or another, obliged to make some amount of verbal contribution during task performance (e.g., Eckerth, 2009; Foster, 1998). In doing so, when learners are negotiating about meaning or form, they have the opportunity to contribute to the automatization of the retrieval of their L2 linguistic knowledge and to use the target language in a meaningful and purposeful context. This section addresses how peer interaction affords a conducive environment for learners to explore the target language as they perform a dyadic communicative task, and how such generation of language may facilitate L2 learning. Swain's (1995, 1998) Output Hypothesis proposes that language production is more than merely an outcome of second language acquisition because it has the potential for modifying learners' approach to processing L2 input. In fact, according to the hypothesis,

output may stimulate learners to move from the semantic, open-ended, non-deterministic, strategic processing prevalent in comprehension to the complete grammatical processing needed for accurate production. Output, thus, would seem to have a potentially significant role in the development of syntax and morphology (Swain, 1995, p. 128).

This means that it is the process of generating language itself that triggers in learners the need to simultaneously attend to the semantic and linguistic aspects of the target language, in order to convey their intended meanings. It also implies that in cases of learners with limited proficiency,

it becomes necessary to engage conscious attention and controlled processing of language use when they are pushed to ‘stretch’ their interlanguage. In addition to enhancing fluency, Swain (1995, 2005) outlines three other functions of output that are related to accuracy:

- (i) *the noticing/triggering function*, in which learners may be pushed to ‘notice’ their linguistic problems while attempting to produce the target language. In other words, the process of generating language may prompt learners to acknowledge consciously what they lack in their L2 linguistic knowledge (which may be triggered by any of the three levels of noticing: simple noticing, noticing the hole or noticing the gap) and in turn, what they need to discover, in order for them to achieve their communicative goal during peer interaction. This acknowledgement of deficiency in their linguistic knowledge may be external (detected and pointed out by a partner) or internal (detected by self). By being aware of what it is they have partial or no knowledge of, learners are more likely to seek relevant input and to direct their attention to particular aspects of the (available) input that may help to resolve their linguistic problems in subsequent production. Whether this will lead to a revision of their existing linguistic knowledge or a development of new knowledge may depend on the depth and elaboration of processing of the attended-to linguistic form. It can be argued that the deeper and more elaborate the processing of the form, the more likely learners are to gain control over the accurate use of the targeted form;
- (ii) *the hypothesis testing function*, in which learners experiment with less familiar or new language structures while negotiating meaning. Here, in the process of producing language, learners may reflect on their hypothesis of what is the “right” way to express their intended meanings. They can then assess the comprehensibility and accuracy of their utterances based on the interactional feedback they receive from their partner. (Note that there is a danger in learner-learner dialogue as a means of performing this function, in that learners may supply one another with non-standard forms.) Alternatively, learners may work through the problematic linguistic form with a partner and jointly resolved to use the

hypothesized structure in their output. Either way, this may lead to the less familiar or new language structures being either discarded, integrated into their interlanguage system, or modified and possibly subjected to further experimentation. Importantly, when learners are testing hypotheses, either spontaneously or because these are brought to their attention during negotiation, they are drawing upon their own resources to validate their L2 linguistic knowledge, and as such, they are more likely to revise their assumptions and modify their output in response to the given feedback;

- (iii) *the metalinguistic (reflective) function*, in which learners reflect upon, discuss and analyse their linguistic problems explicitly. Swain (1995) explains that for this function, while the focus of learner negotiation is still on meaning, “the content of that negotiation is language form, and its relation to the meaning they are trying to express; they produce language and then reflect upon it” (p. 133). Whereas the hypothesis testing function of output enables learners to test their interlanguage hypotheses by applying them in their language production, the metalinguistic (reflective) function allows learners to use language to reflect on and verbalize their hypotheses based on the meaning they have created. Put simply, learners talk about the problematic linguistic forms that arise during task performance, and in doing so, they may reexamine and reorganize their thinking. This function is closely related to Swain’s (2000) notion of collaborative dialogue which is explicated in Section 2.6.3. This way of exploring language affords learners opportunities to focus their discussion on the accuracy and appropriateness of L2 linguistic forms in relation to their meaning and function in context.

Thus, it can be seen that, when exploring the target language, peer interaction presents learners with opportunities to use the language and to reflect on their use of the language. In Levelt’s (1989) speech production model, there are two production processes that are particularly relevant to Swain’s Output Hypothesis: grammatical encoding and monitoring. The process of grammatical encoding, which constitutes the building of the structure of the sentence using syntactic information in the retrieved lemma in the Formulator (Figure 1, p. 29), may require

conscious attention, especially for young learners who are pushed to stretch their L2 linguistic resources, when deriving the syntactic structure of the L2. Kormos (2006) notes that “whereas lexical, syntactic, morphological, and phonological encoding is mostly automatic in L1 production, these mechanisms are only partially automatic even in the case of advanced L2 learners” (p. xxvi). Thus, in the process of producing the L2, learners’ attention may be drawn during production to what they lack in their current interlanguage (the noticing/triggering function). Moreover, at the output stage, through the external loop of monitoring, learners’ utterances are checked for grammatical accuracy and appropriateness of the content in a given communicative situation. This process may heighten learners’ awareness of the disparity between their own production and the target language (the noticing/triggering function), which in turn, prompts them to consciously attend to relevant input in peer interaction. At this juncture, learners may also employ the hypothesis testing function and, possibly, the metalinguistic (reflective) function of L2 production as they attempt to find a resolution for the problematic linguistic forms. This information may subsequently be sent back to the grammatical encoder, and subjected to the prearticulatory loop of monitoring, to enable learners to form a new or modified L2 structure.

Based on Swain’s (1995, 2005) Output Hypothesis, then, it appears that the role of output does not necessarily begin only after input becomes intake and is integrated into the learners’ interlanguage system, as posited in Gass’s (1997) Input-Interaction-Output model. To encapsulate the dynamics of peer interaction during task performance, this study hypothesizes that output may occur at various stages as learners organize their thoughts and expressions, analyse input or assimilate new linguistic features when they work through narrative writing tasks together. Here, it is also proposed that there are two types of output that may be produced by learners as they jointly perform narrative writing tasks, i.e., *preliminary output* and *presentational output*. Figure 4 shows a hypothesized alternative route to second language acquisition taken by the present study.

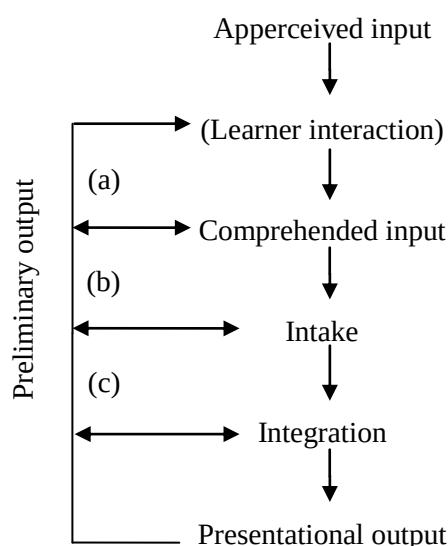


Figure 4. A hypothesized alternative route to second language acquisition

Preliminary output, in the present study, refers to the less controlled language produced by learners as they first attempt a task together. This output type is characterized by false starts, hesitations, changes in decisions and constant revision of form and content. Within peer interaction, preliminary output may occur when learners use language to organize their thoughts and expressions or analyse input (as demonstrated by the arrow labeled (a) in Figure 4) as they work through the task together. The double arrow (a) also highlights how preliminary output may help learners to reflect on their own linguistic inadequacies and notice any mismatches between their output and the target language as they process comprehended input. At the intake stage (the arrow labeled (b)), preliminary output may be generated as learners assimilate new linguistic features into their interlanguage system by testing hypotheses of less familiar or new L2 language structures (the hypothesis testing function), or by verbalizing the hypotheses that underlie their language use (the metalinguistic function). At the same time, the influence being bi-directional, output processing enables learners to negotiate meaning and either confirm, reject, formulate or reformulate their hypotheses upon receiving feedback, which may lead to further intake or integration. Even after integration has taken place, what is produced may still be preliminary output (the arrow labeled (c)). What is accomplished between learners at the preliminary output stage may then become a tool for further cognitive processing within

individuals or a resource for further language use in *presentational output*. *Presentational output* here is the refined learner product specifically crafted for an intended audience. It is characterized by better prepared text in terms of content and linguistic choices. The presentational output stage, however, may not be the endpoint for learners as they may revert to further revision, resulting in a return to the preliminary output stage. Moreover, repeated use of the same structure in the output, whether preliminary or presentational, may lead to learners gaining fluent access to their integrated knowledge, and this may result in the automatic retrieval of their L2 linguistic knowledge for language use. In the case of narrative writing tasks used in the present study, the oral production (interaction) may be regarded as preliminary output whereas the written production (the narrative composition) may be taken as both preliminary and presentational output, depending on whether learners consider their written work a draft or the final product.

Additionally, the hypothesized model is structured such that speaking (preliminary output) precedes writing (presentational output) because the sequence in which learners engage in oral and written production may potentially influence the extent to which they attend to language features. This was demonstrated in a study by Adams and Ross-Feldman (2008), which involved 40 adult ESL learners of various L1 backgrounds (such as Spanish, Chinese, Amharic and Arabic) completing two collaborative tasks requiring spoken and written output. As part of their analyses, the researchers compared the dialogic interactions of eleven dyads who first constructed a story based on a set of pictures orally (much like *preliminary output* proposed here), then wrote the story together (similar to *presentational output*), with the performance of nine dyads who completed the same task by simultaneously discussing and writing the final product together (similar to *presentational output*). Their findings showed that dyads who discussed the story orally prior to producing the written output were more likely to resolve their linguistic problems. This suggests that the processing of preliminary output affords learners the opportunities to notice, reorganize their thinking and reformulate their hypotheses, in order to generate successful resolutions during peer interaction.

Thus far, the discussions on peer interaction (Sections 2.6.1 and 2.6.2) are based on a cognitive-interactive perspective which offers insights into how individual learners process linguistic data during interaction and utilize their cognitive abilities to acquire a second language. Yet the idea that interaction facilitates L2 development with negotiation for meaning as the main, if not the only, means of providing comprehensible input and engaging learners in restructuring their output, and with learning taken as a product of specific linguistic modifications made by individual learners to achieve targetlike output, seems rather limited in its interpretation of second language acquisition. Further, such an interpretation of interactional patterns ascribes to L2 learners an individualistic and mechanical role that fails to capture the dynamism of communication. Therefore, the present study invokes the construct of *collaborative dialogue*, which is explicated in the section that follows. In order to broaden the understanding of L2 learning in relation to interaction between learners, this construct is often discussed in the context of sociocultural theory. In this respect, the present study also chooses to associate peer interaction with both cognitive theory and sociocultural theory. This is because the construction of linguistic knowledge is, after all, as seen in the present study, both a cognitive and a social process. With collaborative dialogue, interaction is L2 development, and learning is viewed in terms of how learners use language not to render their utterances more comprehensible, but rather to build on their partner's contribution, in order to resolve problematic L2 linguistic forms and create new linguistic knowledge. With this in mind, the next section also addresses the role of peer assistance in collaborative dialogue.

2.6.3 Peer interaction as a means for joint construction of L2 knowledge

From a cognitive perspective, in negotiation for meaning, communication breakdown is the impetus for learners to recognize what they lack in their own L2 linguistic knowledge and to notice what they need from the incoming input to achieve their communicative goals during peer interaction. However, the cognitive approach also acknowledges that communication breakdown is not the only conversational avenue to orient learner attention to linguistic forms. A more proficient learner may, for instance, assist a partner by directing the partner's attention from the

content of the talk to the use of a more appropriate linguistic form through the provision of feedback (e.g., in the form of prompts or recasts) during peer interaction, even though there is no communication breakdown. Peer assistance may also occur when there is a discrepancy of opinions during task performance, and learners exchange their L2 linguistic knowledge as they discuss, analyse and possibly modify their own and their partner's utterances to arrive at a better common solution. This may lead to a reevaluation and possibly a reformulation of their own hypotheses when learners reflect on the new information from their peers. Thus, through peer interaction, learners may jointly construct and refine their L2 knowledge when they are confronted with new information that contradicts that of their current interlanguage system. From a cognitive perspective, then, learner dialogue about linguistic forms may be taken as instances of noticing, cognitive comparison, input modification (so that it becomes comprehensible to interlocutors) and output modification, all of which contribute to second language acquisition. The sociocultural perspective, on the other hand, addresses learner interaction from a different vantage point. According to Vygotsky (1978, p. 57),

Every function in the child's cultural development appears twice: first, on the social level, and later on, on the individual level; first, *between people interpsychological*, and then *inside the child (intrapsychological)*. [emphasis in the original]

Interaction, in this context, provides more than opportunities for learners to encounter or notice comprehensible input and receive negative evidence as feedback. It becomes a platform for participants to develop their thinking in cooperation with other people. To Vygotsky, it is from the collective behaviour or joint construction that cognitive change and learning in individuals occur. During the process of interacting with others, language becomes a mediating tool and a sign for participants to exert control over their cognitive processes such as selective attention, planning, reasoning, monitoring, reflecting and problem-solving. Specifically, Vygotsky (1978) distinguishes between *tools* and *signs*, the two types of mediating artefacts, in the way they orient human behaviour. He explains that:

The tool's function is to serve as the conductor of human influence on the object of activity; it is externally oriented; it must lead to changes in objects. The sign, on the other hand, changes nothing in the object of a psychological operation. It is a means

of internal activity aimed at mastering oneself; the sign is internally oriented.
(Vygotsky, 1978, p. 55)

In this sense, language is both a tool and a sign. For instance, when it is manipulated as linguistic structures to accomplish a language task (i.e., the object of activity), it acts as a tool for learners to master the environment. In an interactional context, however, language becomes a sign when learners consider the communicative purpose of their language use and the way their meanings influence an interlocutor or an audience. This way, their use of signs may, in turn, influence the way they convey meanings or express their views. For Vygotsky, it is through the inclusion of the available tools and signs in the process of behaviour that development occurs.

In terms of second language acquisition, Swain (2000, 2005) thus extends one of her three functions of output, the metalinguistic (reflective) function, to include the notion of *collaborative dialogue*, which views output as part of a collaborative process in which the dynamics of the interaction itself mediate joint problem-solving and knowledge-building. She describes collaborative dialogue as:

problem-solving and, hence, knowledge-building dialogue. When participants in an activity make a collaborative effort, their speaking (or writing) mediates this effort. As each participant speaks, their 'saying' becomes 'what they said', providing an object for reflection. Their 'saying' is cognitive activity, and 'what is said' is an outcome of that activity. Through saying and reflecting on what was said, new knowledge is constructed. (Swain, 2000, p. 113)

In this regard, interaction mediates L2 learning in that it provides learners with opportunities to use language and to reflect on their use of the language within a collaborative environment. Through collaborative dialogue, language becomes both a tool and a sign for learners not only to communicate with each other, but also to organize and reorganize their thinking, to test hypotheses, to reason and to offer possible solutions to each other while performing a task together. Importantly, during the interactive process, it is not only the knowledge of the group that is enhanced, but also the knowledge of individual participants, as learners compare their peers' ideas with their own and formulate their response such that it contributes further to their discussion (Wells, 1999). As Vygotsky (1987) points out, "Speech does not merely serve as the expression of developed thought. Thought is restructured as it is transformed into speech. It is

not expressed but completed in the word” (p. 251). In this way, Swain (1995, 2000, 2005) combines the principles of sociocultural theory (via the incorporation of collaborative dialogue to highlight how learners collectively use language to co-construct L2 linguistic knowledge) with a cognitive-interactional approach to interaction and L2 learning (via the acquisitional functions of noticing/triggering and hypothesis testing to establish how learners individually construct L2 linguistic knowledge and use it in their production during interaction to gain access to the target language) in her explication of the Output Hypothesis. In addition, the idea of collaborative dialogue occurring in peer interaction reinforces the hypothesized alternative route to second language acquisition taken by the present study (illustrated in Figure 4, p. 83), in that output, in particular preliminary output, may occur at various stages of second language acquisition as learners analyse, discuss, reflect on and resolve problematic linguistic forms when they are working through a task together. Also, the view that in dialogic interaction language becomes a tool for mediating higher cognitive processes within individuals supports the dual direction of influence proposed by the model in Figure 4 between the role of output and other components (e.g., comprehended input) of second language acquisition.

The notion of co-constructing knowledge via collaborative dialogue is critical for bringing together the cognitive, interactional and sociocultural aspects of peer-mediated learning. Learners construct knowledge not only from noticing their own L2 inadequacies and integrating new linguistic information and language experience into their existing interlanguage, but also from interacting with others. At the same time, peers involved in interaction may vary in the quality and quantity of collaboration and knowledge co-construction that they engage in. Some learners may, for instance, temporarily lead the dyadic discussion by providing their expertise on the topic at hand, whilst others may involve their partners in solving linguistic problems together during task performance, as will be shown later in this section. In this way, the same learner may play the role of novice in some interactions and the role of expert in others, either being scaffolded or scaffolding in the construction of interpersonal knowledge. Several studies have demonstrated that collaborative dialogue has a positive impact on second language acquisition.

For instance, by focusing on occurrences of language-related episodes (LREs), defined by Swain and Lapkin (1998) as “any part of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others” (p. 326), a number of researchers have examined opportunities for language learning that arise when learners work through collaborative tasks together. An example is Kim’s (2008) study which was conducted to compare the effectiveness of collaborative and individual tasks on the acquisition of L2 vocabulary. The study involved 32 adult intermediate-level Korean L2 learners (from diverse L1 backgrounds such as Chinese, Japanese, Nepalese and Ukrainian). Sixteen learners completed a dictogloss task individually, while another sixteen did so in dyads, and learning gains were measured using a pretest and two (immediate and delayed) posttests. Through collaborative dialogue and think-aloud protocols, it was found that learners working in dyads generated a similar number of lexical LREs to those working individually. However, dyads, who engaged in collaborative dialogue, resolved a higher number of lexical LREs correctly. This indicates that the provision of opportunities for dyads to collectively pool their resources and provide assistance to each other was conducive to helping learners resolve their linguistic problems. Additionally, dyad members performed significantly better on both vocabulary posttests than did learners who completed the task individually, indicating that opportunities for collaborative dialogue fosters the acquisition of new L2 vocabulary. This interpretation, however, needs to be taken with a caveat as the vocabulary tests used in Kim’s (2008) study were focused more on learners’ knowledge of word meanings than their ability to use the words in context.

In a study conducted by Lapkin, Swain and Smith (2002), eight Grade 7 French immersion students performed a multistage task in dyads. The task involved completing either a dictogloss or a jigsaw task, noticing differences between the original text and its reformulated version, reflecting on what they noticed through stimulated recall, and revising their original text. Learners’ initial collaborative text was regarded as a pretest whilst their revised text was a posttest. To examine learner development, the researchers traced LREs related to pronominal verbs from pretest to posttest. A close analysis of LREs and participants’ collaborative written

performance at posttest suggested that the provision of repeated opportunities for learners to engage in collaborative dialogue and reflect on French pronominal verbs in a meaningful context facilitated their learning of the correct use of the verbs. However, it should be noted that the research did not incorporate into its design a comparison group. Hence, findings need to be interpreted with caution as it is not possible to conclude that multistage tasks which provide repeated opportunities for learners to engage in collaborative dialogue are more effective in promoting L2 performance than less- or non-interactive tasks. Moreover, it is not known to what extent reformulation, stimulated recall or revision of original text alone contributed to helping learners focus on linguistic forms, resulting in an increase in the accuracy of their verb use. Eckerth (2008) also investigated the impact of collaborative dialogue on L2 learning in a classroom context. 31 adult intermediate-level German L2 learners (from different L1 backgrounds such as Slavic, Arabic, French and Korean) completed a series of dictogloss and text repair tasks in dyads. Learning gains were measured by comparing scores on a pretest and two (immediate and delayed) posttests. Whereas the pretest and posttests encompassed all targeted L2 forms featured in the tasks under study, the delayed tailor-made posttest also included non-targeted L2 items that arose during peer interaction in the form of LREs. The study found that learners made significant learning gains in terms of the targeted L2 forms. On non-targeted L2 items, the delayed tailor-made posttest found that collaborative dialogue afforded learners opportunities to reflect on their peer discussion, revise their L2 hypotheses and reconstruct their L2 linguistic knowledge even after task completion. Based on these findings, it was suggested that collaborative dialogue promoted the learning of both targeted and non-targeted L2 linguistic knowledge in tasks. This interpretation, however, needs to be treated with caution. Given that no comparison group was used in the study, it is difficult to determine that it was collaborative dialogue *per se* that impacted on L2 learning.

Importantly, within collaborative dialogue, learners are seen as mutual partners in their contribution to the conversation as they jointly co-construct knowledge. This entails peers providing appropriate assistance to each other, and it is held that this will enable the emergence

of a level of L2 performance that is higher than that produced by any one individual involved. In a seminal study, Donato (1994) demonstrates how three university learners of French were able to work collaboratively on a non-structured classroom task. Fragments of learner dialogue cited in this study show that it is possible for novices to enhance their own L2 linguistic development as well as that of their peers when they engage in negotiated interaction. There was no one clear expert in the group and all members collectively pooled their resources and provided assistance to one another as they worked towards resolving the linguistic problems that they encountered during task performance. In another study, Swain and Lapkin (1998) analysed the dialogue of two Grade 8 French immersion students using language related episodes as the learners performed a jigsaw task, and they reported that their findings showed that the two learners were able to internalize the grammatical features that they constructed collaboratively via interaction. The samples of LREs presented in the article, however, also show instances of how the two learners utilized their limited existing L2 knowledge to jointly address linguistic problems in ways that resulted in the use of non-targetlike forms such as **le sonnement*, **elle le suive* and **qui marche vers l'école* in their L2 written production. To these non-standard resolutions, the researchers concede that linguistic guidance, particularly in the form of teacher feedback, is necessary to follow up from learner collaborative dialogue, in order to avoid occurrences of mislearning. In addition, learner dialogue cited in the study indicates that one of the learners in the dyadic interaction appeared to be a more proficient French speaker than her partner as she provided all the correct responses, and this, thus, unlike the learner dialogue data presented in Donato's (1994) study, illustrates an asymmetrical expert/novice relationship between the two learners. However, Swain and Lapkin (ibid.) point out that "neither student dominated during their pair work and ... both contributed in important ways to the collaborative activity" (p. 325): the less proficient learner frequently generated alternative hypotheses when he encountered a problematic linguistic form, and the more proficient learner, taking on the leading role, offered mediation by providing the correct information about the linguistic form or rule. Such engagement in collaborative dialogue leads to a question about the balance of learner contribution to the process of co-constructing knowledge. Apparently, even in collaborative

dialogue, the presence of an expert to provide proleptic assistance and guidance may be necessary for some dyads, in order for individual learners to be able to construct the correct L2 linguistic knowledge.

In another classroom-based study, Storch (2002) examined the nature of interaction between twenty adult ESL learners (most of whom were Asians) working in dyads on three writing tasks: a short composition, an editing task and a text reconstruction task. She identified four distinct patterns of dyadic interaction in terms of equality of contribution (i.e., the level of control over a task) and mutuality (i.e., the level of engagement with partner's contribution): collaborative, dominant/dominant, dominant/passive and expert/novice. Of relevance here is Storch's suggestion of a relationship between the patterns of dyadic interaction and individual L2 learning. In order to trace the uptake of resolutions that dyads reached during interaction in their subsequent individual performance, the learner dialogues of four dyads (one from each of the four patterns of interaction) and the L2 written performance of each member in subsequent tasks were examined for instances of transfer of knowledge, no transfer of knowledge and missed opportunities. An instance of transfer of knowledge was operationalised as the use of a word or a structure that was negotiated during peer interaction in learners' subsequent individual production. When no such transfer was detected, this was considered an instance of no transfer of knowledge. A missed opportunity was operationalised as an instance in which there was little deliberation over a particular language item during peer interaction and the learner's error on the item persisted in his or her individual performance. Storch found that the collaborative dyad and the expert/novice dyad generated more instances of transfer of knowledge and fewer instances of missed opportunities than either of the dominant/dominant or dominant/passive dyad. The dominant/dominant dyad, which produced relatively fewer requests and explanations during interaction, had the highest number of instances of no knowledge transfer, and the dominant/passive dyad, which yielded very few instances of negotiation and co-construction of knowledge, had the highest number of instances of missed opportunities. However, Storch also notes that of the total number of instances of transfer of knowledge ($n = 49$), there were ten that

were resolved incorrectly during peer interaction and this incorrect knowledge was transferred to individual performance, resulting in mislearning. These results highlight three points: (i) in all four patterns of interaction, there was a learner (or learners, in the case of the collaborative and dominant/dominant patterns of interaction) who, at one point or another, during task performance, claimed an expert role in providing some form of expertise; (ii) the patterns of interaction had both positive and negative implications for individual L2 learning; thus, it is important to maintain a balance in learner contribution in the process of co-constructing knowledge; and (iii) there is a need to monitor learner performance during collaborative tasks and to provide learners with additional assistance when required, in order to avoid instances of no transfer of knowledge, missed opportunities and mislearning. Yet, in the case of young learners in classes of approximately equal levels of L2 proficiency, such help may not always be readily available. Thus, the present study seeks to fill in the ‘expert’ gap by providing a mediating tool in the form of written linguistic assistance for learners to utilize when they engage in collaborative dialogue. Presented to learners of similar proficiency, linguistic assistance can be used by both learners in the dyadic interaction to mediate each other as they approach the task together. In this way, it may influence the balance of peer assistance.

Specifically, this study introduces both explicit and implicit forms of mediation. Wertsch (2007, p. 185) distinguishes between the two in the following way:

Explicit mediation involves the intentional introduction of signs into an ongoing flow of activity. In this case, the signs tend to be designed and introduced by an external agent, such as a tutor, who can help reorganize an activity in some way. In contrast, implicit mediation typically involves signs in the form of natural language that have evolved in the service of communication and are then harnessed in other forms of activity.

In the context of the present study then, linguistic assistance is regarded as explicit mediation, when learners select and use the provided words or expressions to help them perform the task. Within collaborative dialogue, exploratory talk (where learners use language to share knowledge and challenge ideas in an equitable way) and cumulative talk (where learners use language to mutually create and build on each other’s ideas) are implicit mediation, as they are deployed by

learners as cultural tools to participate in discussion. However, it is important to take cognizance of how mediation is proffered to young learners as this may influence their collaborative interaction and task performance. For any type of mediation to have an impact on the development of cognition of learners, it needs to be set at a level that is compatible with learners' zone of proximal development.

The zone of proximal development (ZPD) is a key construct in the sociocultural theory of mind. Vygotsky (1978, 1986) introduced the notion of the ZPD to highlight the interdependence of the social and psychological dimensions of the development of higher cognitive abilities. He defines the ZPD as:

the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86)

For Vygotsky, the social dimension is clear, and he holds that the development of cognition and the construction of knowledge occur in two stages: first interpsychological, then intrapsychological. Whilst learners' actual developmental level is demonstrated by their ability to perform a task unaided, their level of potential development is reflected at the interpsychological stage where learners require guidance and assistance from other people (or through other forms of mediation) to accomplish the task. In a sense, the process of learner development is contingent upon the resources that are co-constructed via mediation that is available when learners participate in social interaction. At the same time, from the psychological dimension, learners need to have the presence of certain maturing functions, “which can be a target for meaningful, interventive action” (Chaiklin, 2003, p. 43) as their starting point (i.e., their actual developmental level) so that they are capable of appropriating and utilizing the resources and mediation. In the context of L2 learning, the maturing functions would entail the present state of learners' interlanguage development, their goals and the extent to which learners can, and are ready to, use their skills, knowledge and/or processes in collaboration with others. The difference between the two levels of development thus delineates the learners' cognitive trajectory. Learners reach a new

developmental level at the intrapsychological stage when skills, knowledge and/or processes are internalised and they are able to perform the task independently.

Yet, as shown in Nassaji and Swain's (2000) study, learners are only ready to learn from the task when they can benefit from collaborative interaction on that task, i.e., when they are involved in interaction that is within their ZPD. Aljaafreh and Lantolf (1994) further identify three mechanisms of effective help in the ZPD: (i) help is graduated; (ii) help is contingent; and (iii) help is negotiated through dialogic interaction. Only then can learners become self-regulated through collaboration with others. *Regulation* refers to the amount of voluntary control one has over and the ability to transform one's performance (Lantolf & Thorne, 2006, p. 79). Hence, a shift from object-regulation (e.g., learner's attention is dominated by a given text) and other-regulation (e.g., learner's attention is guided, through dialogue, by a peer) to self-regulation (e.g., the learner has internalized the strategies provided by others and is capable of self-directed activity) can be taken as an indication that learning has occurred. Aljaafreh and Lantolf (1994), in their study with three adult ESL learners on error correction and feedback, investigated the construct of regulation in relation to the amount of assistance learners require from an expert, in order to gain control over the use of targeted structures. They determined the learners' interlanguage development by looking at whether there was increased accuracy in their use of the target linguistic items and whether there was a change in the quality and quantity of mediation given to them over time. Whereas the first criterion was used to provide evidence for improvement in overt performance, the second was used to demonstrate development in the learners' ZPD. Their findings show that different learners, even when they are at the same actual developmental level and experience the same linguistic difficulty, may require different assistance to remedy a problem, and that all corrective feedback is potentially relevant depending on whether it is appropriated and deployed within the learners' ZPD. For this reason, the present study incorporates the element of choice in the provision of external mediation to learners in collaborative narrative writing tasks. Young learners performing the tasks can select and appropriate words or expressions that they themselves feel are most useful in helping them find

their own voices in their story in the L2. In this way, they are provided with opportunities to obtain developmentally appropriate assistance for themselves and to use it as a resource or a tool to co-construct preliminary and presentational output with their peers (other-regulation) via collaborative dialogue. They may become self-regulated when they have internalized the new words, expressions or linguistic forms and are able to utilize them in subsequent individual performance.

Of particular interest for this study is the notion that there need not be a true “expert” present in peer interaction, in order for development in the ZPD to occur. Contrary to Vygotsky's (1978, 1986) notion of the ZPD which specifies the need for the presence of an adult or more proficient peers to provide appropriate guidance, it appears that learners who are individually novices, when working collaboratively to construct a discourse, can collectively become experts. Ohta (2000) investigated peer assistance using discourse analysis to examine interactional cues that occurred between two adult learners of Japanese as they completed three communicative tasks collaboratively. She found that assistance, when offered at the time most needed via subtly articulated cues (mutual sensitivity), helped participants to eventually accomplish the task independently. Her learner dialogue data, however, showed a novice being mediated by a more proficient language learner; or put another way, there was development in the ZPD for only one of the learners in the peer interaction. Ohta's (2001) longitudinal study, on the other hand, which involved analysing the task-based interaction of seven university-level students learning Japanese as a foreign language, demonstrated examples of learners assisting each other in dyadic interaction to construct discourse that neither partner could have yet produced individually. Based on her analysis of 34 hours of classroom corpus, Ohta (2001, p. 89) identifies seven methods of peer assistance: waiting, prompting, co-construction, explaining, indicating a problem without providing negative evidence, providing recasts, and asking the teacher for assistance. What can be observed from such a classification is that Ohta's notion of peer assistance does not appear to exclude interactions compromising an imbalance of learner contribution (i.e., a more proficient partner providing prompts, explanation, negative evidence,

etc.) or learner beneficence (i.e., there is development in the ZPD for only one of the learners). Whilst some of the excerpts of learner conversation in her publication demonstrate instances of joint mediation between peers, others are arguably indicative of the presence of a more proficient speaker (either a partner or the teacher) providing all necessary assistance so that the struggling learner is able to produce the desired utterance. Nevertheless, Ohta (2001) maintains that all learners have different strengths and weaknesses, and that even the more proficient learners benefit from peer interaction “through the process of scaffolding the performance of another, ... help themselves, building bridges to proficiency as they support the production of their interlocutors” (p. 125). The fact, however, remains that, if L2 learners are not given further linguistic assistance than that provided by their peers, they tend to benefit more from collaboration with more proficient speakers who have greater linguistic resources, as evidenced in several studies that investigated collaborative dialogue with learners from different proficiency levels (e.g., Fernández Dobao, 2012a; Kim, 2009; Kim & McDonough, 2008; Lapkin, et al., 2002; Leeser, 2004; Williams, 2001).

An example of such studies which considered the impact of L2 proficiency of learners on the quality of collaborative dialogue in dyads is one conducted by Alegria de la Colina and Garcia Mayo (2007). Focusing on low proficiency learners, the study involved 24 Spanish L1 university learners of English as a foreign language performing three types of collaborative writing tasks: a jigsaw task, a text reconstruction task and a dictogloss. Learner interaction was analysed for the number and type (whether lexis- or form-based) of LREs and their resolution. In terms of task types, it was found that all three tasks were effective in helping low proficiency learners to focus on linguistic forms, but text reconstruction, which was the most structured of the three tasks, generated the largest number of LREs as well as metalinguistic episodes. Of relevance here is the finding that although low proficiency learners were able to provide mutual support to each other during task performance, there were a considerable number of LREs that were resolved incorrectly. In fact, a direct relationship was observed between the number of LREs generated and the percentage of LREs that were resolved incorrectly. In this study, text reconstruction,

which generated the most LREs, yielded the highest percentage of incorrect resolutions (34 per cent). This was followed by the jigsaw task (29 per cent) and dictogloss (24 per cent). Overall, there was a higher percentage of lexis-based LREs that were resolved incorrectly (43 per cent) than were form-based LREs (28 per cent). This clearly indicates that some of the linguistic problems that arose during discussion might have been beyond the capabilities of these low proficiency learners. The researchers suggested that these learners may need “adequate feedback once [their] attention has been drawn to a given feature” (p. 111). Here, “adequate” is taken to imply the quality rather than the quantity of appropriate feedback to assist low proficiency learners in developing their awareness (i.e., attention plus understanding) of problematic linguistic forms. The results of this peer interaction study, along with many others (cited earlier), strongly point to a need to provide learners with some means of obtaining linguistic support or guidance that is within their ZPD, be it from the teacher, from more proficient peers or from instructional materials, in order for them to stretch their L2 interlanguage and use new structures. In this regard, there is still a paucity of research, particularly in the context of young ESL learners, which investigates whether the performance of L2 users who have limited linguistic resources can be enhanced by other types of linguistic assistance in language learning tasks through peer interaction.

To summarize, this section considers the potential benefits of collaborative dialogue, a form of dialogic interaction. Through it, not only can learners offer peer assistance (that is within their ZPDs) when creating meaning together, but also they have the opportunity to discuss, analyse and reflect on their own and their partner’s use of the target language in relation to the meaning they are trying to convey. In this way, peer interaction enables learners to pool their L2 resources as they jointly solve linguistic problems suited to their needs and to create new L2 knowledge or consolidate existing ones. However, learners’ ability to provide mutual support during task performance may be influenced by, *inter alia*, their limited L2 proficiency. Another factor which may potentially affect peer interaction is the cognitive complexity of L2 tasks, which is discussed in the next section.

2.7 Task complexity and peer interaction

This section explores how tasks may potentially influence the ways in which L2 learners produce language in an interactive situation. It can be argued that, on its own, the inclusion of peer interaction in a task may not necessarily add to the cognitive demands of the task. In fact, within the framework of Trade-off Hypothesis, Skehan (2009) and Skehan et al. (2012) propose that dialogic tasks should fall under the category of *easing/focusing influences* because interaction can ease the cognitive processing load during task performance and enable greater attention to linguistic accuracy. Skehan (2009) suggests that a dialogic task offers some planning time for a learner to mentally formulate, organize and reorganize his or her utterances during interaction when the partner is speaking. Considered in the light of Levelt's (1989) speech production model, this means that the learner has more time for lexical retrieval and sentence building during interaction than when the learner is performing the task on his or her own. Furthermore, when learners are engaged in collaborative dialogue, they can provide mutual scaffolding to each other, thus lowering the demands on their L2 linguistic resources. Conversely, based on the Cognition Hypothesis, Robinson (2001a, 2001b, 2007a) proposes that in terms of task complexity, monologic and dialogic tasks have similar effects on learner performance, that is, linguistic complexity and accuracy may be enhanced at the expense of fluency. However, Robinson (2001a) and Robinson and Gilabert (2007) also postulate that increasing the cognitive demands of L2 tasks (along both the resource-directing and resource-dispersing dimensions) is likely to incur greater communicative demands for learners during dialogic interaction as they stretch their attentional, memory and L2 linguistic resources to meet task demands. Thus, more cognitively demanding tasks which entail peer interaction are likely to lead to more communication breakdowns as well as collaborative dialogue, and this may result in learners generating greater amounts of interaction and negotiation for meaning (e.g., comprehension checks, clarification requests, confirmation checks, recasts, LREs) during task performance. As discussed in the previous sections, when learners' attention is drawn to linguistic problems, this

creates the condition for noticing, cognitive comparison, hypothesis testing and peer-assisted collaboration, thus increasing the potential for L2 learning.

A number of empirical studies have looked at the relationship between task complexity and dialogic learner interaction. Robinson (2001b), for instance, examined the effects of manipulating the cognitive complexity of a direction-giving map task on learner interaction. 44 Japanese L1 university learners of English were required to complete both simple and complex versions of the same one-way task in dyads. Whereas the simple version of the map comprised few elements and the area being referred to was familiar to learners, the complex map included more elements and covered a larger area that was unknown to them. In terms of interaction, it was found that there was a significantly higher number of comprehension checks and a trend for more clarification requests in the complex task. Robinson (2007b), in another study involving 42 Japanese L1 university learners of English (discussed previously in Section 2.4), also looked at the impact of increasing task complexity on interaction. This time Robinson manipulated complexity by varying the degree of intentional reasoning that was required, in order for learners to perform the one-way, closed-ended narrative tasks. There were three levels of complexity, making low, medium or high intentional reasoning demands. Analysis of learner performance revealed that increasing task complexity progressively corresponded to the use of more clarification requests and confirmation checks, as predicted by the Cognition Hypothesis.

Gilabert, Barón and Llanes (2009) conducted a study in which 54 university learners of English as a foreign language (with an upper-intermediate level of proficiency) completed, in dyads, simple and complex versions of three different closed-ended, split-information task types: a narrative task, an instruction-giving map task and a decision-making task. For the narrative task, complexity was manipulated by either providing or removing wordless comic strips, hence prompting learners to narrate in the present tense in the former (simple) condition and in the past tense in the latter (complex) condition during task performance. For the simple version of the instruction-giving map task, learners had to give directions to their partner based on a two-dimensional map (with a single lateral axis), whereas for the complex version, learners had to

consider more elements and to give directions based on a three-dimensional map (with lateral, vertical and sagittal axes). For the decision-making task, the simple version provided learners with many resources and they had to consider a few unrelated elements. The complex version provided learners with fewer resources and they had to prioritize and justify their decisions since the sequence of their actions might affect their later ones. Measures of interaction entailed negotiation for meaning (i.e., confirmation checks, clarification requests, comprehension checks), recasts, LREs and self-repairs. The researchers found that the complex narrative task triggered more clarification requests, confirmation checks, LREs and self-repairs, and the complex instruction-giving map task prompted more confirmation checks, comprehension checks, LREs and self-repairs. In contrast, the complex decision-making task triggered more self-repairs, but showed no significant differences in other measures of interaction. There was a low incidence of recasts across all tasks. On the basis of these findings, the researchers concluded that while increasing the cognitive complexity of tasks may generate greater amounts of interaction, this also depends on task types.

Kim (2009) also studied the impact of task complexity on the occurrence of LREs in two task types, that is, a narrative task and a picture difference task. What is interesting about the study is the inclusion of learners' L2 proficiency in Kim's analysis. 34 university ESL learners (of diverse L1 backgrounds such as Chinese, Arabic and French) were allocated to either a high or a low proficiency level group and they performed in dyads a simple and a complex version of two-way, closed-ended narrative and picture difference tasks. Task complexity for the narrative task was manipulated by varying the reasoning demands, and for the picture description task, by varying the number of elements it contained. For the narrative task, the low proficiency group generated significantly more LREs when working on the simple version, which does not support the Cognition Hypothesis. Kim suggests that, given a low complexity task, the low proficiency learners might have had more attentional resources available to focus on their partner's oral production and to provide feedback to them. The fact that these findings contradict Gilabert et al.'s (2009) findings, in which the complex narrative task performed by upper-intermediate level

learners triggered more LREs, suggest that task complexity may affect peer interaction differently for low and upper-intermediate level learners. This hypothesis is supported by the results for Kim's (2009) high proficiency group, who produced significantly more LREs when completing the complex version. For the picture difference task in Kim's study, the low proficiency group produced significantly more LREs when working on the complex version; but for the high proficiency group, task complexity did not appear to have any significant impact on the quantity of LREs produced during task performance. Kim's findings thus suggest that the effects of task complexity on peer interaction differ depending not only on task types, but also on learners' proficiency in the target language.

So far, the studies reviewed in this section have focused on the impact of task complexity on the amount of peer interaction produced during task performance, and on learning opportunities afforded by the interaction. In these studies, L2 learning is assumed, based on interaction, rather than being empirically tested. However, as pointed out by Kim (2012), "learning opportunities are not necessarily a direct indicator of subsequent L2 linguistic development" (p. 634). Kim (2012) therefore conducted a quasi-experimental study using a pre-/posttest design to explore the impact of task complexity on L2 development of English question forms mediated by peer interaction. 191 Korean L1 university learners of English as a foreign language from four intact English classes took part in the study and were allocated to one of four conditions: a control group (which was not provided with interaction activities; instead, this group was given listening and reading materials which included comprehension questions such as fill-in-the blanks, true-false questions and vocabulary practice questions, all of which were completed individually), a group performing a low complexity task in dyads, a group performing a medium complexity task in dyads and a group performing a high complexity task in dyads. Task complexity was manipulated by varying the degrees of demands on reasoning. Learner interaction was analysed only for the number of LREs which involved question formations, and these were coded for developmental stage. The results showed that more complex tasks generated significantly more occurrences of LREs involving question forms. Kim reasons that this is because learners were

pushed to meet the cognitive demands of the complex tasks and in doing so, they had to reanalyse and restructure their interlanguage; and that this led to the development of English question forms in the interlanguage. This study highlights how peer interaction may mediate the relationship between task complexity and development of specific L2 linguistic forms.

Overall, it can be seen that increasing task complexity increases the amount of peer interaction. However, reviewing the findings related to the influences of task types and learner proficiency on task complexity, it appears that learners with limited L2 proficiency, such as those in the present study, may not benefit from a task that is cognitively or conceptually too complex, in particular when this is a narrative task (Kim, 2009). This may be because learners with restricted L2 linguistic knowledge are overstretched in their interlanguage when they have to concentrate on both the linguistic and the conceptual aspects of the task (which may be beyond their ZPD), and as a result, are not able to perform optimally during interaction. Furthermore, the studies reviewed above have focused solely on L2 oral production. Involving L2 written production when peers are working collaboratively on a cognitively complex task may further add to learners' linguistic difficulties, because writing requires conscious attention on the part of the learners not only to retrieve relevant (and available) lexical items and grammatical information, but also to attend to higher-level concerns such as idea organisation, revision of content and evaluation of text structure. It may be helpful to offer L2 learners support, for example in the form of written linguistic assistance in addition to peer assistance, to ease the linguistic demands of a cognitively complex task. However, note that while linguistic assistance and peer interaction may each have a direct impact on L2 written performance, the influence of linguistic assistance may also be mediated by peer interaction, resulting in an indirect impact.

2.8 Summary

Linguistic assistance has been introduced in this chapter as an instructional device to ease the L2 linguistic demands of tasks on learners with limited L2 proficiency. The concept of providing written linguistic assistance is grounded in cognitive theories which focus primarily on attention,

memory, noticing and monitoring and how these are utilized in meeting learners' linguistic needs and demands when learners are performing a task, be it oral or written, in a second language. Drawing on Levelt's (1989) speech production model and Flower and Hayes's (1981) writing process model, three processing stages are found to be similar between speaking and writing: conceptualization, linguistic formulation and evaluation. Of the three phases, the linguistic formulation stage is often singled out in the literature reviewed in this chapter as a main concern for learners with limited L2 proficiency when they are required to produce the target language. Having to devote their attentional and memory resources to formulation (which includes assessing accurate and appropriate L2 lexical or grammatical knowledge) during the language production process may prevent learners from attending to higher-level processes.

From another perspective, the Cognition Hypothesis (Robinson, 2001a, 2001b, 2007a, 2011b; Robinson & Gilabert, 2007) and the Trade-off Hypothesis (Skehan, 1998, 2009; Skehan & Foster, 1999, 2001) posit that the conceptual demands of L2 tasks can determine the extent to which learners allocate their attentional resources, in order to meet the linguistic demands of the tasks. The implications are the same as those of the speech production and writing process models: learners need to tap into their available L2 linguistic resources, in order to express their thoughts and convey their intended meanings, as required by the task. In other words, learners with limited L2 linguistic knowledge may experience difficulty at the linguistic formulation stage, and this difficulty may manifest itself as a lack of accuracy, fluency and/or syntactic and lexical complexity in production. By situating linguistic assistance within the construct of task complexity, it becomes clear that the provision of written support may reduce the attentional resources required to meet linguistic demands at the formulation stage, and permit learners to focus on the conceptual demands of the task. Therefore, meaning is achieved, but not at the expense of accuracy or appropriateness of the output. Moreover, based on the Involvement Load Hypothesis (Hulstijn & Laufer, 2001), the selective use of linguistic assistance may lead to a higher degree of cognitive processing in learners during task performance. To date, there has been a lack of empirical research examining the influence of varying degrees of written linguistic

support for learners with limited L2 proficiency, and in particular young ESL learners, during complex task performance.

Whereas linguistic assistance is conceptualized within a cognitive framework, the construct of peer interaction has been examined from both cognitive and sociocultural perspectives, in order to provide a more integrated account of how learner assistance can be utilized for the development of higher levels of cognitive processing. In this chapter, assistance from peers during interaction, from a cognitive perspective, includes not only providing L2 linguistic input and prompts, but also allowing interactional space between learners to discover the workings of the target language. The provision of opportunities for learners to engage in discussions may trigger acquisitional processes such as noticing, hypothesis testing and restructuring, and this may lead to L2 learning. From a sociocultural perspective, peer interaction affords opportunities for learners to pool their L2 resources as they jointly solve linguistic problems through collaborative dialogue, and this may either consolidate their existing knowledge or create new knowledge collaboratively. In view of this, to combine cognitive theory and sociocultural theory, the present study adapts Gass's (1997) Input-Interaction-Output model and Swain's (1995, 2000, 2005) Output Hypothesis (which includes the notion of collaborative dialogue) and uses these to hypothesize an alternative route to second language acquisition. A major difference in this alternative model is the inclusion of two types of output: preliminary output and presentational output. Preliminary output serves as a mediating tool for learners to discuss and reorganize their thinking and reflect on their language use. While this is happening during interaction, processes such as noticing, hypothesis testing and restructuring may also be taking place. Preliminary output may also serve as a resource for further language use in presentational output.

This chapter has focused on research that investigated learner interaction. Even though exchanges in the reviewed studies are exclusively between learners (i.e., without the intervention of an authoritative expert such as a teacher), most studies have generally shown positive results in that peers are capable of providing mutual support and that interaction promotes L2 learning opportunities, even amongst young learners. However, there are reports of occurrences of

miscorrections and mislearning in some of these studies, in particular those that involved low proficiency learners. Research that concerns the impact of task complexity on interaction has also been reviewed. While there is evidence that increasing task complexity enhances the amount of peer interaction, the effect is also dependent upon task types and learner proficiency. Taking all this into consideration, it appears that learners, in particular those with restricted L2 linguistic knowledge, need to be provided with support so that they are not overstretched in their interlanguage. The provision of peer assistance, as seen in the reviewed studies, is beneficial, but not necessarily sufficient. Written linguistic assistance may be another useful form of support to help learners overcome some of their L2 linguistic difficulties.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter begins with a brief discussion of the research questions and hypotheses addressed in the present study. It then describes the research design, participants, intervention materials, instruments for data collection and procedures that this study employed to answer the research questions. It also provides an account of the quantitative data analysis. There are three parts to the quantitative analyses: Section 3.8.1 presents the analysis of L2 written performance, Section 3.8.2 focuses on the analysis of peer interaction and Section 3.8.3 describes the analysis of dyadic performance. The statistical procedures used in each analysis are described and justified. The chapter concludes with a section which discusses the relationship between these three analyses.

3.2 Research questions

The main purpose of the study was to examine how young Bruneian ESL learners in Year 5 could be assisted to perform at a higher level of competence in their use of the target language during interactive classroom task. Specifically, it aimed to address the following research questions:

- RQ1 Does the provision of linguistic assistance in narrative writing tasks influence the L2 written performance of Bruneian pupils in Year 5?
- RQ2 Does peer interaction in this population lead to better quality of L2 writing than does individual work?
- RQ3 Does the nature of linguistic assistance impact the quality of L2 writing?
- RQ4 For the audio-recorded group of children who work in pairs and receive linguistic assistance, do the numbers of interactional episodes differ between the Dyadic Enhanced

Linguistic Assistance (DyadicEA) and Dyadic Basic Linguistic Assistance (DyadicBA) Groups?

RQ5 Does the quantity of episodes of different interactional categories produced during dyadic collaboration mediate subsequent L2 written performance?

In relation to the five research questions, the following hypotheses were advanced:

Hypothesis 1: Given that there is a lack of studies on written linguistic assistance upon which the prediction of Research Question 1 can be based, the null hypothesis is assumed, i.e., the provision of linguistic assistance in narrative writing tasks is not expected to influence the L2 written performance of Bruneian pupils in Year 5.

Hypothesis 2: On the basis of the generally positive results of previous studies on peer interaction and L2 performance (e.g., Adams, 2007; Lapkin, et al., 2002; Storch, 2005; Wigglesworth & Storch, 2009), it is hypothesized that peer interaction amongst Bruneian pupils in Year 5 will lead to better quality of L2 writing than does individual work.

Hypothesis 3: Again, due to a lack of preceding research into the utilization of written linguistic support in L2 writing of young learners, the null hypothesis is assumed in regard to Research Question 3, i.e., the nature of linguistic assistance will have no impact on the quality of L2 writing.

Hypothesis 4: Given the contradiction between Skehan's (2009) Trade-Off Hypothesis and Robinson's (2001a, 2001b, 2007a) Cognition Hypothesis on the influence of tasks on peer interaction, the null hypothesis is assumed for Research Question 4, i.e., the numbers of interactional episodes will not differ between the DyadicEA and DyadicBA Groups. According to the Trade-Off Hypothesis, the provision of linguistic assistance may ease the cognitive processing load during task performance, and this may enable greater attention to linguistic accuracy during interaction. If this is the case, then the greater linguistic support given to the DyadicEA Group than that given to the DyadicBA Group may generate more interactional

episodes that focus on linguistic forms. Alternatively, the Cognition Hypothesis holds that it is the cognitive complexity of a task that drives L2 performance, and that increasing cognitive demands may lead to greater communicative demands during interaction. In this case, while linguistic assistance may facilitate task performance by easing linguistic demands, it may not reduce the cognitive complexity of the task; hence, the different degrees of linguistic assistance may have similar effects on learners' L2 production during interaction. Therefore, the Cognition Hypothesis predicts that there will be no difference in the numbers of interactional episodes between the DyadicEA and DyadicBA Groups.

Hypothesis 5: Many studies have examined the impact of peer interaction on L2 performance (e.g., Adams, 2007; Bitchener, 2004; Kowal & Swain, 1994; Kuiken & Vedder, 2002; Mackey, 1999). Unlike previous interaction research, however, the present study has included in its research design an additional component of providing linguistic assistance to support learner performance. For this reason, Research Question 5 looks at whether the quantity of different types of peer interaction has a mediating effect on subsequent L2 written performance when linguistic assistance is provided to learners. Given the paucity of findings in this area, the assumption for Research Question 5 is the null hypothesis, i.e., the quantity of episodes of different interactional categories produced during dyadic collaboration does not mediate subsequent L2 written performance.

3.3 Research design

This intervention-based study adopted a quasi-experimental design. The decision to take this approach was partly in response to the requirement of SPN21 (Brunei education system) (Ministry of Education, 2009) to promote young Bruneian ESL learners' performance in narrative writing. Because of this, it was necessary for the study to evaluate the effectiveness of providing linguistic assistance to L2 learners as a mediating tool to support their written output. The opportunity to compare learners in different treatment conditions in naturally occurring intact classes also provided insights into the pedagogic reality of incorporating such writing instruction

into an upper primary classroom. At the same time, in order to obtain a fuller understanding of how young learners learn, and learn in, a second language, this exploratory study aimed to look at ways in which young learners exploit linguistic assistance in peer collaboration. As the study concerned the processes and products of L2 development, it utilised both quantitative and qualitative data in the research design, viz. peer interaction output and children's written production.

There were three treatment groups and one control group in the study. Twelve intact Year 5 classes from six different schools took part in the study (N = 257). Three of the classes (N = 70) were randomly selected as the Dyadic Enhanced Linguistic Assistance (DyadicEA) Group, and they received enhanced linguistic assistance in the narrative writing tasks on which they worked in dyads. Another three classes (N = 61) were randomly assigned to the Dyadic Basic Linguistic Assistance (DyadicBA) Group, and they received basic linguistic assistance in their narrative writing tasks, also working in dyads. Three more classes (N = 67) were randomly designated as the Individual Basic Linguistic Assistance (IndvBA) Group; like the DyadicBA Group, the IndvBA Group received basic linguistic assistance in their narrative writing tasks, but they worked individually. Whereas the basic linguistic assistance offered to the DyadicBA and IndvBA Groups comprises content words and verbs that may be useful for learners when they narrate their story (Appendices 1 and 2), the enhanced linguistic assistance offered to the DyadicEA Group gives more help in the form of paragraphs of text (Appendix 3). These short paragraphs outline the introduction and the beginning of a plot for the story. The remaining three classes (N = 59) served as the Control Group, receiving writing instruction which, except for the absence of the linguistic assistance, was similar to the tasks given to the treatment groups in terms of linguistic focus, instructional procedures and themes (Appendix 4); they worked on these tasks individually.

3.4 Participants

The target class level was Year 5 (age 10). This age group was selected because, according to the *Primary English Teacher's Book 5* (Curriculum Development Department, 2007b), learners at this level are familiar with narrative texts. In addition, according to Philp, Mackey and Oliver (2008), children of this age are able to view language metalinguistically and make use of their analytic abilities to focus on linguistic forms in a language. In other words, they are more likely to be able to attend to, and discuss, narrative and the grammatical structures when they perform tasks. The study employed convenience sampling, given that the choice of schools participating in the study depended on the approval of the Brunei Darussalam Ministry of Education. Eight schools were initially invited to take part in the study on the basis of school type, socioeconomic status and location: they are all government-funded (state schools), are of high socioeconomic status, and are from the same district (Brunei-Muara District). The rationale behind the selection of schools with such characteristics is that they are representative of the majority of primary schools in the urban areas of the country. All eight schools were willing to participate. Six of the eight schools were selected on the basis of the following inclusion criteria: (i) similar numbers of learners per class; (ii) similar placement of learners in each class (i.e., mixed ability instead of streamed classes); (iii) classes which were overall of similar L2 English proficiency (although within each class, there was a range of different L2 ability levels amongst learners); and (iv) practicality of conducting the research in the school, based on factors such as school and teachers' involvement in other projects, and teachers' commitment to the implementation of the pedagogical intervention. The rationale behind the selection of mixed ability classes for this study is that this class composition is the norm in the urban primary schools in Brunei Darussalam. Data collected from this sample of learners enable the findings of the present study to have high generalisability.

Several steps were taken prior to the final selection of the six schools (twelve classes), in order to allow, within the constraints of the sampling design, for classes of learners that were as closely matched as possible in terms of their L2 English ability to be involved in the intervention. At the

outset of the study, one-to-one meetings were arranged with the school administrators and English language teachers, in order to gain insights into the workings of each school and classroom. These meetings also provided an opportunity for me to discuss with the teachers the details of the intervention. To determine the L2 English ability level of learners, the English language teachers were asked to rate the children against a set of criteria (Appendix 5). Studies have shown that teacher assessment of learner achievement is valid and reliable, and comparable to standard language assessment (Hoge & Coladarci, 1989; Reeves, Boyle, & Christie, 2001). In fact, teacher assessment often offers more information about the learners than standardised proficiency measures (Harlen, 2005; Leung & Mohan, 2004). Thus, it is hardly surprising to find SLA researchers using an instructor rating of learners' overall L2 ability to determine their proficiency (e.g., Leiser, 2004; Storch & Aldosari, 2013; Swain & Lapkin, 1998). For the present study, the scale, ranging from 1 – *None* (i.e., unable to use English at all) to 6 – *Exceptional* (i.e., able to express oneself in English on a par with a native speaker), covers general L2 speaking and writing ability. In addition, all children were required to write a short story in English. This was to provide me with a clearer understanding of the L2 ability level of learners in each class and school. In this way, the twelve classes of Year 5 learners with similar L2 English proficiency were selected for this study.

While all the Year 5 children in the six schools were involved in the intervention, only children whose parents consented to their participation, who were present for all pretests and posttests and who were not in the Special Education programme were included in the data analysis. Table 2 presents the characteristics of the participants.

Table 2
Learner characteristics by treatment condition (Group)

Group	School no.*	No. of pupils (N)	Gender		L2 English proficiency (scores out of 6)		Age (in years)	
			Male (N)	Female (N)	Mean	SD	Mean	SD
DyadicEA	1	26	11	15	3.50	1.07	10.27	.60
	3	24	11	13	3.21	1.25	10.17	.38
	4	20	12	8	3.10	1.29	10.55	.61
<i>Total</i>		70	34	36	3.29	1.19	10.31	.55
DyadicBA	2	19	13	6	3.32	1.20	10.42	.61
	5	17	8	9	2.71	1.31	10.24	.56
	6	25	11	14	3.60	1.00	10.56	.51
<i>Total</i>		61	32	29	3.00	1.20	10.43	.56
IndvBA	1	22	10	12	3.05	.95	10.59	.59
	2	20	6	14	4.05	.83	10.25	.55
	3	25	13	12	2.68	1.31	10.56	.65
<i>Total</i>		67	29	38	3.21	1.20	10.48	.61
CG	1	25	8	17	3.76	1.13	10.40	.50
	2	16	11	15	3.19	1.17	10.81	.66
	6	18	8	18	3.94	1.00	10.44	.62
<i>Total</i>		59	27	32	3.66	1.12	10.53	.60
<i>Overall totals</i>		257	122	135	3.35	1.19	10.43	.58

SD = Standard deviation

School no.* is the code given to each participating school.

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

Note: Of a total of 283 pupils in the six selected schools, eight children opted out of the study. Six of them were from one class while another two were from another class in a different school. In addition, ten pupils were excluded from the data analysis because they were in the Special Education programme; the ten pupils were from different schools and there were no more than two Special Education pupils per class. Another eight pupils were not included in the final analysis because they either moved to another school or were absent for two or more lessons during the intervention; these pupils were also from different schools and there were no more than two of them per class.

Most of the learners in the study had come from similar educational backgrounds since kindergarten, and they shared a common first language, Brunei Malay. English had been taught to them as a second language since kindergarten. In Years 1 to 3, they had received five hours of English lessons per week, in addition to Mathematics and Science being taught in English. In Year 5 they were receiving four hours of English lessons per week. English was also the medium of instruction for several core subjects, including Mathematics, Science and Social Studies. At the time when the research was conducted, learners in all twelve classes were following the

national English curriculum (Curriculum Development Department, 1995). According to their English language teachers, they were using *Primary English Pupil's Book 5*, *Primary English Workbook 5* and *Primary English Teacher's Book 5* (Curriculum Development Department, 2007a) as their main instructional resources. This suggests that, although the learners were from different schools, the instruction and language content they received were similar. Throughout the study, attrition rates were low, and were attributable to learners being transferred to another school or being frequently absent in class. Eight children fell in this category of exclusion, and they were from different schools and there were no more than two of them per class. Data for these children were excluded from the analysis.

Although children had been randomly assigned to Year 5 classes in their respective schools (i.e., streamed classes were not included in the study), Table 2 shows an uneven distribution of children in terms of gender and L2 English proficiency level in some classes. This resulted, for instance, in some classes having more learners with low L2 English proficiency than others. Learners' proficiency level, judged by their respective English language teachers at the outset of the intervention (Appendix 5), was also utilised as an initial basis for forming dyads of learners of similar proficiency. This time, however, the learners were also rated by me. To do this, I engaged in direct observation for two weeks, attending at least two English lessons per class, in order to become familiar with the learners, and I rated learners according to the same scale as the one the teacher had used (on a scale of 1 to 6 points) (Appendix 5). My ratings of learners' proficiency were done independently and without reference to the teachers' ratings. A Pearson product moment correlation coefficient revealed a high correlation between the teachers' and my own ratings in all classes (overall, $r = .83$, $p < .001$). For each class, analysed separately, the Pearson correlation coefficient ranged from $r = .61$ to $r = .98$, all $p < .05$. Discrepancies in the ratings were discussed and resolved, and each learner was then assigned to either a high proficiency dyad/group, an average proficiency dyad/group or a low proficiency dyad/group. Following the L2 English proficiency classification, learners with a high score of 5 or 6 were placed in the high proficiency group. Learners who were given a score of 3 or 4 were assigned to

the average proficiency group, while those who were given a score of 1 or 2 were placed in the low proficiency group. In this way, all learners in the DyadicEA and DyadicBA Groups were put in dyads (and an occasional triad) of similar proficiency level. The dyads/triads were composed of gender-matched peers. Within these constraints, each child was also put in a self-selected friendship pair so that they would be encouraged to be more collaborative and more responsive towards each other (Azmitia & Montgomery, 1993; Miell & MacDonald, 2000; Vass, 2002).

At the onset of the intervention, five pairs of children from each of the six classes that were assigned to either the DyadicEA or DyadicBA Group were selected, based on purposive sampling (Bryman, 2008) to have their interactional talk audio-recorded during task implementation for eight weeks. Each of these classes was from a different school. For each class, this sample included two dyads of high English proficiency learners, two dyads of average English proficiency learners and one dyad of low English proficiency learners. These dyads were matched across the six classes based on their L2 English proficiency rating scores. Each high proficiency dyad selected for audio-recording had both learners attaining a score of 5; these two dyads usually comprised the four top scoring learners in the class. To reflect a wider range of L2 communicative language ability, the selection of average English proficiency dyads from each class included a pair with both learners achieving a score of 4 (i.e., the higher end of the average proficiency level), and another pair with both learners achieving a 3. The low proficiency dyad was selected from the higher end of the low proficiency level, with both learners obtaining a score of 2 on the L2 English proficiency rating scale. Learners at the lower end of the low proficiency level (with a score of 1) were not selected because they were unable to comprehend or express their ideas in English. This means that they did not have adequate L2 knowledge to discuss the linguistic problems that they encountered during task performance. (There were, in all, eleven pupils who were from the lower end of the low proficiency level; they were from different schools and there were no more than three of them per class.) This method of sampling was employed so as to provide insights into how learners of similar proficiency assisted each other (with varying degrees of linguistic assistance) during the preliminary (oral) and

presentational (written) output stages. It also enabled me to make a comparison between the types of peer-mediated assistance provided within dyads of different proficiency levels. In all, there were fifteen dyads from the DyadicEA Group and another fifteen from the DyadicBA Group whose dialogues were audio-recorded during all the tasks in the study.

As described earlier in this section, even though the twelve classes recruited into the present study were overall of similar L2 English proficiency, there was a range of different proficiency levels within each class. This also means that there were learners of varying L2 writing ability in each of these classes. One explanation for this occurrence is that the placement of children in these mixed-ability classes in their respective schools was based on their overall academic ability (which included their attainment in subjects such as Science, Art and Physical Education), and not on their L2 writing ability *per se*. As a result, for this study, which used intact classes from different schools for its control and treatment groups, there was a range of abilities of children as L2 writers within each group. For example, learners at the higher end may have been able to express their ideas in the L2 with considerable fluency, and to construct appropriate simple and compound sentences in their written narratives. For learners at the lower end, their vocabulary may have been limited to a few simple, common English words, and they may have experienced difficulty in constructing simple sentences accurately during narration.

The ten teachers who were involved in implementing the intervention are trained teachers (Table 82, Appendix 6). All of them have obtained their professional qualifications from a local university, Universiti Brunei Darussalam. Six of them are trained as generalist primary school teachers (BA Primary Education and Diploma in Primary Education), while one is trained as a Malay secondary school teacher (BA Education). The remaining three teachers are trained in teaching English as a second language at the primary-school level (B. Ed. Primary Education, TESOL). Their experience of teaching English ranged from two to seventeen years. All ten teachers are fluent in both English and Malay. This is an important factor to ensure there was no communication breakdown between the teacher and learners in the course of conducting the lessons, in particular when learners required help from the teacher. Throughout the study,

learners were allowed to participate in peer discussions in the language of their preference, i.e., English or Malay.

3.5 Materials

The measurement instruments developed for this study consisted of:

3.5.1 Narrative writing tests

3.5.2 Grammar cloze tests

3.5.3 Recordings of participant talk during task implementation

The intervention materials that were used in this study included:

3.5.4 Narrative writing tasks

3.5.5 Learning logs

The narrative writing and grammar cloze tests were specifically developed to gather data on the children's individual L2 written performance to address Research Questions 1, 2 and 3. In relation to Research Questions 4 and 5, the narrative writing tasks, learning logs and learner recordings were employed to gain insights into peer interaction and the use of linguistic assistance during collaborative writing.

3.5.1 Narrative writing tests

Four narrative writing tests were developed for the current study. They all required learners to individually compose a narrative text based on a sequence of pictures (Appendices 7a-7d). These tests, similar to ones used in Year 5 English I examination paper and Year 6 *Penilaian Sekolah Rendah* (Primary School Assessment) state examination paper (Examination Department, 2001), aimed to elicit learners' implicit knowledge of narrative structure, grammar and vocabulary as they attempted to express meaning in writing. A different set of pictures was used for each narrative writing test to avoid possible practice effects.

3.5.2 Grammar cloze tests

Four grammar cloze tests (Appendices 8a-8d) were designed for the study to measure learners' explicit knowledge of verb tenses. The target linguistic forms and testing procedures for all four cloze tests are similar. The test items, however, are different. This was done to avoid a practice effect. For each cloze test, there are twelve blanks. Each blank has an item in bracket consisting of the base form of a verb, and the context within the passage determines the appropriate tense to be used. In each test, the target verb forms are simple past tense (four regular verbs and four irregular verbs), past continuous tense (two items), negative *did not* (one item) and simple present tense (one item). These verb forms are selected because they are frequently featured in narratives to demonstrate action sequences (DfEE, 2000; Knapp & Watkins, 1994, p. 145).

3.5.3 Recordings of participant talk during task implementation

In the DyadicEA and DyadicBA Groups, the five selected dyads per class audio-recorded their conversation during the intervention for the full eight weeks (two sessions per week for eight weeks).

3.5.4 Narrative writing tasks

Narrative writing tasks were selected for the present study for two reasons. First, not only do these tasks act as a stimulus to elicit learners' production of the target language (e.g., Ellis & Yuan, 2004; Ishikawa, 2007; Kormos, 2011), but they also provide a meaningful context for learners to focus on formal aspects of the target language (e.g., Gilabert, et al., 2009; Kim, 2009; Swain & Lapkin, 1998). Second, in the context of task complexity, these particular picture narration tasks were employed to exert cognitive demands on young learners at the conceptualization stage, by requiring the participants to ruminate on the storyline and create their own ending to the story.

For this intervention, instead of using commercially prepared materials, I have opted to design my own narrative tasks in a way that they revolve around the stories of five good friends –

Moody Mimi, Friendly Faridah, Timid Tassim, Honest Omar and Lucky Lucas. These stories were used to provide contexts for learners to focus on target language features. Importantly, using the same story characters builds on learners' familiarity with task content. Shak and Gardner (2008), in their study involving 78 young ESL learners performing four different focus-on-form tasks, found that children are likely to retain the target linguistic forms in their memory when associated with their favourite story character or humorous illustrations. In addition, young learners may take on more linguistic risks when they are familiar with the task content (Mackey, et al., 2007).

Three types of narrative writing tasks were developed for this study:

- (i) tasks with enhanced linguistic assistance for the DyadicEA Group;
- (ii) tasks with basic linguistic assistance for the DyadicBA and IndvBA Groups; and
- (iii) tasks with no linguistic assistance for the Control Group.

The stories that learners were asked to narrate were all based on sequences of pictures. For each task, a sequence of pictures was used to set the scene and initiate the plot, up to the beginning of a complication in the story. This presented an open-ended problem for learners in that they were permitted to interpret the picture sequence and co-construct the rest of the story in accordance with their own preference. An open-ended problem such as this should afford learners more opportunities for collaboration, as highlighted in Palincsar, Stevens and Gavelek's (1989) interviews with 25 teachers in Grades 1 through 3 and junior high school with regard to selecting collaborative learning tasks. Brooks and Swain (2009), in their study involving four adult ESL learners (two of whom were Japanese, and the other two were Korean), also employed a collaborative writing task that featured an open-ended picture prompt, in order to investigate the types of expertise that emerged when the learners worked through the task in pairs. They reason that tasks with an open-ended problem are more likely to enable learners to engage in collaborative problem-solving. For all four groups in the present study, the narrative writing tasks shared the same themes throughout the eight weeks of active intervention. They were also

designed such that learners in the DyadicEA and DyadicBA Groups worked in pairs while learners in the IndvBA and Control Groups worked individually.

The *narrative writing tasks with enhanced linguistic assistance* (Appendix 3) for the DyadicEA Group provide paragraphs of text from which learners can choose words or expressions that they think they may need to construct their story. Specifically, two short paragraphs of text containing the introduction and the beginning of a plot for the story that learners would produce themselves are presented to them as linguistic assistance. These paragraphs employ the same tense forms and language features (such as conjunctions and connectives) that learners would be expected to use in their own narration. It was from this text that learners were asked to select (by underlining) ten words or expressions that they thought would help them in their picture narration. A limit of ten words/expressions was imposed on learners, in order to curb potential copying of large chunks of text from the two paragraphs. Learners were also specifically reminded to make their story more interesting than the version that they were given. In this way, the text served the dual purposes of offering a template upon which learners could construct their own story, and drawing their attention to words, tense forms and language features that they could potentially use in their story.

The *narrative writing tasks with basic linguistic assistance* for the DyadicBA (Appendix 1) and IndvBA Groups (Appendix 2) contain individual words that learners can select, in order to help them with their oral and written output. For each task, a list of eight content words and eight verbs that are related to the story are presented to learners, and they can choose as many words as they need, in order to construct an interesting story. Each verb is presented in its base, simple past and progressive forms, and learners have to select (by underlining) the tense form they think is appropriate for their story. In this way, the list of words potentially directed learners' attention to (and for learners in the DyadicBA Group, encouraged discussion about) the use of the selected words and tense forms in their narration. The suitability and adequacy of the linguistic assistance provided to the treatment groups were determined through a pilot study on three classes of mixed-ability Year 5 pupils from similar populations not included in this study. After the one-

month pilot study, words and expressions for the narrative writing tasks were revised to cater for learners of different proficiency levels.

For the *narrative writing tasks with no linguistic assistance* (Appendix 4), learners in the Control Group were given the same picture story as that used by the treatment groups and asked to write a story. Here, without a list of words or paragraphs of text, the pictures in the tasks serve as the main stimulus to focus learners' attention on generating the content of the story. Nonetheless, learners in all four groups were permitted to seek help from the teacher or consult a dictionary when performing the tasks. Any words obtained from these sources were recorded in their learning log and these were distinguished from with those selected from the linguistic assistance (see Section 3.5.5).

Each task took place during two hours of class time (an hour a day for two successive days) spread over a period of eight weeks. Based on a single sequence of pictures, on Day 1 the main focus of the task was on oral production of the story, whilst on Day 2, the focus shifted to written production. By the end of the intervention, learners in all twelve classes had completed eight compositions in English, either in pairs or individually, depending on which group they were assigned to.

3.5.5 Learning logs

All children in treatment and control groups were given a special notebook in which to keep a learning log, recording words and/or expressions selected prior to narrating the story (Appendix 9). Learners in the treatment groups were asked to select words and/or expressions from the linguistic assistance provided in the narrative writing tasks. Learners in the Control Group, on the other hand, had the option of obtaining words and/or expressions from the teacher or from their own linguistic resources. Learners in all four groups were allowed to ask the teacher for help or consult a dictionary. They were required to record in their learning log the words given by the teacher (marked with a T) or obtained from a dictionary (marked with a D). Learners in the DyadicEA and DyadicBA Groups then compared and shared the words in the learning log with

their partners as they jointly worked on the task. Learners in the IndvBA and Control Groups referred to the words in their learning log as they performed the writing activity on their own. Whilst the logs (and pictures) remained available to learners while they were narrating the story, the handouts containing basic or enhanced linguistic assistance were removed.

As a source of data for the present study, the learning logs provided information on whether learners in the DyadicEA and DyadicBA Groups explicitly referred to the words and/or expressions written in their logs when they offered assistance to their partners during discussion.

3.6 Procedure

A narrative writing test and a grammar cloze test were administered as pretests to learners in all six schools two weeks before the start of the experimental treatment. There then took place eight weeks of active intervention. In Week 4, learners were given interim narrative writing and grammar cloze tests. On completion of the treatment, learners were given immediate posttests. Four weeks later, they were given delayed posttests. (A description of test procedure follows in Section 3.6.1.) All narrative writing and grammar cloze tests were piloted on ten Year 5 pupils not included in the main study prior to the commencement of the intervention. This was done to check whether the level of difficulty of each test, and the amount of time required to complete the tests, was similar.

I was not involved in teaching any of the groups; hence, the teacher-researcher effect was not an issue in the research design. Instead, to reduce the degree of intrusiveness, children in the study were taught by their English language teachers, and prior to the onset of the intervention, the teachers were trained on the procedure of collaborative or individual writing tasks. They were provided with lesson plans and task material. In addition, the teachers and learners were shown, as a model, a video demonstration of a number of L2 Bruneian learners performing a similar task and talking through some of linguistic and content difficulties they encountered while they were narrating the story. The benefit of allowing learners to view videotaped models of dialogic interactions prior to carrying out the tasks was highlighted in a study by Kim and McDonough

(2011), which involved 44 adolescent Korean L1 learners of English as a foreign language (ages 13 to 14) completing three communicative tasks in English. The researchers found that learners who viewed the video were more likely to discuss their linguistic problems and to arrive at an appropriate resolution for these problems than learners who did not view the video. The video used in the present study is provided on a CD-ROM as Appendix 10. Participants then undertook two practice sessions to familiarise themselves with the task design and the use of learning logs, and received two mini-lessons on identification of verb tenses (in particular regular and irregular verbs).

The twelve classes in the six schools were randomly assigned to three treatment groups (DyadicEA Group, DyadicBA Group and IndvBA Group) and one control group. Of the four hours of English language instruction that Year 5 children in Bruneian primary schools normally receive per week, two hours (i.e., an hour a day for two days) were allocated to participants in the study to complete a narrative writing task. For the remaining two hours of the week, they received their normal classroom instruction. In other words, learners worked on the same task for two successive days. In a typical Day 1 lesson, all learners were first presented with a situation and a picture to set the scene for the story. This was followed by a brief lesson on the target language features (Table 3) which was taught by their teacher using the context of the story. The aim was to encourage learners to use the language features in their compositions. After that, learners in the treatment groups were given the linguistic assistance from which they selected words/expressions they needed for their story production. These words/expressions were recorded in their learning logs. For learners in the DyadicEA and DyadicBA Groups, each pair discussed the words they had selected and worked together to create a story orally. A time limit of fifteen minutes was allocated for this oral task. In order to provide learners in the IndvBA and Control Groups with the oral production component of the lesson as well, they were put in groups of four (of similar proficiency levels) for fifteen minutes on Day 1, in order not to share, but to narrate their story orally, and then to vote for the best story within their group. All learners were prevented from writing the story on Day 1. Day 2 was focused on getting learners to

produce the story in written form. The first thirty minutes of the lesson on the second day was used for whole class discussion and learners' own recapitulation of the story they composed on Day 1, and the remaining thirty minutes were given to learners to complete the written task.

The tasks were designed in such a way that learners were exposed to the same theme (e.g., birthday, pets, friendship) and the same language features in narrative writing for two to three weeks. This was to provide recycling of target grammatical structures. The choice of language features for this study was based on the L2 narrative writing performance of three Year 5 mixed-ability classes (not included in this study) when they were performing collaborative writing tasks administered in a one-month pilot study. From the pilot study, the more problematic language features were selected as foci for this study. Table 3 shows the language features selected for each task.

Table 3
Narrative writing tasks and their focal language features

Tasks	Selected language features
Tasks 1 and 2	Sentence connectors (connectives) to signal time sequences, e.g., <i>before that, then, next</i> Past tense in narratives
Tasks 3, 4 and 5	Direct speech and the use of speech marks Past tense in narratives
Tasks 6, 7 and 8	Conjunctions to join sentences, e.g., <i>because, while, but</i> Past tense in narratives

To control for ordering effects (Mackey & Gass, 2005), the treatment tasks for each school were counterbalanced, as illustrated in Table 4.

Table 4

Treatment sequence for each group in the study

Treatment sequence for each group in the study												
	Wk -2	Wk -1	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6	Wk 7	Wk 8	Wks 9-11	Wk 12
	Pre-intervention (two weeks)		Active intervention								Post-intervention	
DyadicEA	- Consent letter distributed to all four groups in six schools - Administration of narrative and grammar cloze pretests in all schools - Training session for teachers - Video demonstration for learners and teachers - Practice sessions on tasks and the use of learning logs - Two mini-lessons on identification of verb tenses		Task 1*	Task 2	Task 3	Task 4	Administration of narrative and grammar cloze interim tests in all schools	Task 5	Task 6	Task 7	Task 8	Administration of narrative and grammar cloze immediate posttests in all schools
DyadicBA			Task 3	Task 4	Task 5	Task 6		Task 7	Task 8	Task 1	Task 2	
IndvBA			Task 6	Task 7	Task 8	Task 1		Task 2	Task 3	Task 4	Task 5	
CG			Task 1	Task 2	Task 6	Task 7		Task 8	Task 3	Task 4	Task 5	
Third term school holidays												
Administration of narrative and grammar cloze delayed posttests in all schools												

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

*The language focus of each task is outlined in Table 3.

In order to reduce the teacher effect (Marsden, 2007), the implementation of the instructional treatment was closely regulated. A detailed intervention protocol was drawn up and this was distributed to teachers in the form of lesson plans and teachers' notes for each task (Appendices 11-14). To administer standardised intervention to all participants in the treatment and control groups, the protocol included, for instance, precise instructions, scripts for whole-class discussions and allocation of time for each phase of the lesson. To ensure fidelity to condition, I observed each classroom between six and nine times and used an observation checklist to record the conduct of the tasks. These classroom visits also enabled me to observe children in a classroom setting when the task was in progress and to offer immediate assistance or alternative

suggestions to the teacher during class time. In addition, I met the teachers each week on a one-to-one basis to discuss any issues arising from the intervention and any adjustments made to the lessons. In the event, no adjustments were reported as being necessary.

It should be noted that precaution was also taken to control for leakage across treatment groups within the same schools. Prior to the intervention, I made clear to all participating teachers that the main purpose of the study was to examine the influence of various treatments on learner performance. Thus, to prevent their instruction from being affected by other treatment conditions, the teachers were asked not to discuss their lessons or to exchange the instructional materials amongst themselves until after the eight-week intervention was over. A debriefing session was set up at the end of the study for the teachers to share their lessons and experiences, and the instructional materials.

3.6.1 Test procedure

All tests were administered by the English teachers. Learners in all twelve classes completed the narrative writing and grammar cloze tests individually. They were instructed not to ask for help from the teacher, confer with their friends, or refer to a dictionary during the test. A 3x4 Latin square design was used to counterbalance the distribution of the four sets of tests to control for order effects. Learners were given thirty minutes to complete a narrative writing test and fifteen minutes for a cloze test. Throughout the intervention, the narrative writing test was given before the grammar cloze test. It should also be noted that between the immediate and delayed posttests there were no English lessons for any of the four groups due to a three-week school break.

3.7 Ethical considerations

As the present study involved child participants, special care was taken to ensure that ethics procedures outlined in CUREC (2005) and BERA (2004) were observed (CUREC forms 1 and 2 are provided as Appendices 15a and 15b). Permission to conduct the study was sought from and granted by the Brunei Darussalam Ministry of Education. Further permission was sought from

the headmasters/headmistresses and teachers of the participating schools. Following the BERA revised ethical guidelines for educational research (2004), all children in Year 5 in the participating schools were provided with a full explanation of the study in both their home language and in English prior to the pedagogical intervention, to ensure that they understood the purpose and process of the study (*Information leaflets* in English and Malay for children and parents are provided as Appendices 16 and 17). Informed consent was sought from the parents/guardians prior to data collection (Appendices 18 and 19). The children and their parents/guardians were informed clearly that their participation in the study was voluntary and they had the right to withdraw from the study at any time. All data were anonymised and stored securely to protect the confidentiality of the participants. All participating teachers were given a debriefing session at the end of the study to ensure that they were aware of the overall learning gains, if any, resulting from the pedagogical intervention.

3.8 Data analysis

Multiple data analysis methods were used to address the five key research questions of this study. All data analyses were run using the SPSS 20.0 software package. The analyses were in three parts:

3.8.1 Analysis of L2 written performance

3.8.2 Analysis of peer interaction

3.8.3 Analysis of dyadic performance

The following sections describe, and provide a rationale for, the procedures employed in each analysis. This is followed by a final section (Section 3.8.4) which explains how each of these analyses is related to the others.

3.8.1 Analysis of L2 written performance

The first three research questions concern the analysis of L2 written performance:

- RQ1 Does the provision of linguistic assistance in narrative writing tasks influence the L2 written performance of Bruneian pupils in Year 5?
- RQ2 Does peer interaction in this population lead to better quality of L2 writing than does individual work?
- RQ3 Does the nature of linguistic assistance impact the quality of L2 writing?

All writing tasks were scored according to the Brunei National Study of Student Competencies in Mathematics and English (NSSCME) writing scale which had been developed by the Australian Council for Educational Research (ACER). This five-point rating scale for narrative writing was specifically developed with the Brunei English syllabus in mind (Anderson, 2008) and was used to assess the L2 writing proficiency of Years 4 and 6 learners across Bruneian primary schools in 2008. Four dimensions of narrative writing are considered: *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar*. For the purpose of the current study, a rating of 1 (low) through 15 (high) for each criterion was used. This was to allow for finer distinctions in learners' writing performance than those provided by the original NSSCME writing scale. To arrive at the fifteen-point scale, each of the five levels devised by ACER was subcategorized as *beginning*, *developing* and *expanding* (Appendix 20). The *beginning* category characterizes learners as being able to achieve the minimum requirements listed in a particular level of the writing scale. The *developing* category indicates that learners are displaying all the qualities listed in a particular level in their narrative composition. The *expanding* category within each level shows that learners are producing work that is above the requirements of a set level; however, the quality of the work does not reach the minimum of the next higher level.

The scores for each criterion were used for statistical analyses. To ensure reliability, two independent assessors who had been trained by ACER to assess the writing ability of Bruneian primary school children in the national assessment study were asked to mark ten per cent of the scripts. These scores were then compared with those given by me. A Pearson product moment correlation coefficient revealed a significantly high correlation between the first assessor's and

my ratings ($r = .95, p < .001$) and between the second assessor's and my ratings ($r = .94, p < .001$).

To address Research Question 1, whether the provision of linguistic assistance influenced L2 written performance, a comparison was made between the performance of the IndvBA Group and that of the Control Group. In the course of the intervention, learners in the IndvBA Group had received basic linguistic assistance when they performed the narrative writing tasks individually, whereas learners in the Control Group completed the same tasks individually in the absence of linguistic assistance. To address Research Question 2, which compares the influence of peer mediation to the influence of individual work on the quality of the L2 written output, a comparison was made between the DyadicBA and IndvBA Groups. The two groups were selected because during the intervention, while both groups received identical basic linguistic assistance when they performed the narrative writing tasks, learners in the DyadicBA Group worked in dyads (hence, potentially affording peer mediation) and learners in the IndvBA Group completed the tasks individually. For Research Question 3, to determine whether the nature of linguistic assistance impacted L2 written output, a comparison was made between the performance of learners in the DyadicEA and DyadicBA Groups. In both groups learners worked in pairs. The difference between the treatment conditions lay in the nature of the linguistic assistance given to each group when they performed the narrative writing tasks: the DyadicEA Group received enhanced linguistic assistance, while the DyadicBA Group received basic linguistic assistance.

3.8.1.1 Statistical analysis of the narrative writing test scores

Initially, scores on the ACER-based fifteen point scale collected from the narrative writing pretest, interim test, immediate posttest and delayed posttest were subjected to repeated measures ANOVA, in order to detect change in individual writing performance (specifically, the four criteria of *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar*) under different treatment conditions, and to reveal the interaction effects. However, it

was decided that a repeated ANOVA design was not the most appropriate statistical procedure because the descriptive statistics revealed that the performance between some of the groups were not equivalent at the onset of the study. Further analysis using a one-way ANOVA revealed that the DyadicBA Group obtained significantly lower mean scores on some of the measures of L2 writing than the DyadicEA and IndvBA Groups at pretest (Tables 83, 84 and 85 in Appendix 23). Thus, for the current quasi-experimental study, in order to eliminate any possible effects of prior attainment as a contributing factor to the relationship between the treatment condition and L2 written performance, a partial correlation analysis was conducted.

To address the first three research questions, all partial correlation analyses examined the relationship between the variables of *Group* (i.e., treatment condition) and learners' writing scores obtained at interim test, immediate posttest and delayed posttest, while controlling for the effects of a third variable, that is, scores obtained at pretest (Field, 2005). The level of significance for all statistical tests was set at 0.05.

3.8.1.2 Statistical analysis of the grammar cloze test scores

Grammar, in addition to being examined in a partial correlation analysis as one of the criteria in the Brunei National Study of Student Competencies in Mathematics and English (NSSCME) writing scale (as *Implicit grammar*), was also investigated quantitatively in another way, by using scores obtained from the grammar cloze pretest, interim test, immediate posttest and delayed posttest. Each test was marked out of twelve (twelve gaps). Each correct answer was awarded one point and an incorrect response was scored as zero. Spelling mistakes were disregarded when the responses were phonetically similar to the actual answer. For example, *tol* for *told* would be accepted as a correct response and be awarded a full point. The reason is that the primary purpose of administering grammar cloze tests in this study was to elicit information about learners' explicit knowledge of verb tenses (*Explicit grammar*).

Similar to the analysis of the narrative writing test scores, a partial correlation was conducted in order to verify whether there was an association between treatment and learners' subsequent

performance in the grammar cloze tests at various points of the intervention, without the influence of learners' prior attainment. The primary correlation of interest was between the variables *Group* (i.e., treatment condition) and learners' scores obtained at interim test, immediate posttest and delayed posttest. The control variable was the pretest scores.

3.8.2 Analysis of peer interaction

While the first three research questions concentrate on individual L2 written performance over time, Research Question 4 shifts the research focus to capturing the processes undertaken by dyads to create an interactive space in which peer assistance and collaboration can take place. Specifically, Research Question 4 is as follows:

RQ4 For the audio-recorded group of children who work in pairs and receive linguistic assistance, do the numbers of interactional episodes differ between the Dyadic Enhanced Linguistic Assistance (DyadicEA) and Dyadic Basic Linguistic Assistance (DyadicBA) Groups?

The data for analysis for Research Question 4 involved fifteen pairs of learners each from the DyadicEA and DyadicBA Groups who were selected at the onset of the intervention to audio-record their conversational interactions during task implementation for every lesson for eight weeks. Approximately 225 classroom hours of data were transcribed for analysis. (Transcription conventions are in Appendix 21.)

Research Question 4 first looks at how often participants, who were paired by approximately equal levels of L2 English proficiency, engaged in discussions on story content and language features when performing a narrative writing task. It then employs interpretative analysis to investigate whether the nature of linguistic assistance affects the numbers of various types of interactional episodes produced between partners in the DyadicEA and DyadicBA Groups. For this study, in terms of peer-mediated interaction between young learners, there are three main areas of concern: dialogue content, peer assistance and the use of additional resources to mediate

discussion. Based on these, eight characteristics of episodes were derived from the interactional data for analysis: (i) types of focus of episodes; (ii) types of activation of peer expertise; (iii) nature of peer assistance; (iv) types of partner's response; (v) quality of partner's response; (vi) episodes involving the use of the first language; (vii) peer consulting linguistic assistance during exchange; and (viii) types of resolution. The description of each characteristic will be given in greater detail in the following sections. By examining whether the different types of linguistic assistance increased (or decreased) the number of particular types of episodes in dyadic interactions, the question essentially explores the mediating effects of linguistic assistance on peer interaction.

The current study draws on an analytical framework of *language-related episodes* (LREs) (Swain, 2001; Swain & Lapkin, 1998; Williams, 2001) and *content-related episodes* (CREs) to analyse how language is used to mediate and co-construct knowledge during interaction. The section which follows (Section 3.8.2.1) provides a description of and a justification for using LREs and CREs to examine the interactional data in the present study. Following this, Section 3.8.2.2 presents a discussion on four modifications made to Swain and Lapkin's (1998) analytical framework for LREs that was adopted for this study. Section 3.8.2.3 then explains the identification and coding of CREs and LREs. Finally, Section 3.8.2.4 describes the statistical analysis of CREs and LREs employed in the present study.

3.8.2.1 Language- and content-related episodes

In the present study, L2 learner talk is viewed as a tool to mediate higher cognitive processes such as attending, planning, comparing, reasoning and hypothesis testing when L2 learners use language to accomplish a task together. At the same time, as learners use language to jointly create an object of linguistic study for the task, their talk (i.e., the language they are producing) becomes the object of overt reflection and discussion. Through such talk about language, learners co-construct language and linguistic knowledge (Swain, 2001). Hence, this learner talk about

language, which Swain and Lapkin (1998) term a *language-related episode* (LRE), becomes a source for L2 learning.

Swain and Lapkin (1998) define an LRE as “any part of a dialogue where the students talk about the language they are producing, question their language use, or correct themselves or others” (p. 326). Using LREs to analyse participant talk provides detailed descriptive accounts of how L2 learners assist each other as they manipulate interactional resources to perform the task at hand, and how, in the process of generating the appropriate L2 output, their attention may be drawn to linguistic features. Importantly, the scope of LREs extends beyond that of negotiation of meaning, in that it takes account of interactional sequences where there is no communication breakdown. This makes the analysis of LREs suitable for analysing interactional data that involve learners who are less able or less inclined to engage in negotiation of meaning. Furthermore, studies which have employed the use of LREs in their data analysis showed inclusion of segments of dialogue in which learners used the L1 to reflect on the linguistic features of the L2 (e.g., McDonough & Sunitham, 2009; Suzuki & Itagaki, 2009; Swain & Lapkin, 2000), and this is relevant to the present instructional context, which involves young participants who share a common L1; given their limited L2 resources, these learners in dyads may resort to using their L1 when they jointly work through linguistic difficulties.

On the technical front, using the LRE framework to analyse L2 output processes allows for a principled description of interactional exchanges. Additionally, the taxonomy of episodes lends itself to quantification. This means that analysis based on LRE counts can be used to investigate a relatively large sample size experimental study of peer interaction, which is not possible with conversation analysis (e.g., Bani-Shoraka & Jansson, 2007; Kasper, 2004; Mondada & Doehler, 2004) or microgenetic analyses of episodes of interaction (e.g., de Guerrero & Villamil, 2000; Gánem-Gutiérrez, 2008; Rojas-Drummond, et al., 2008), the two commonly used methods of data analysis in sociocultural studies. The quantification of episodes also allows for comparison of quality and quantity of learner interaction occurring under different conditions. Leeser (2004), Watanabe and Swain (2007) and Kim and McDonough (2008), for instance, have used LRE

analysis to look at the effects of L2 proficiency differences in pairs. Swain and Lapkin (2001) and del Pilar Garcia Mayo (2002), on the other hand, investigated the number of LREs generated by different tasks and activities. For Ross-Feldman (2007), the quantification of LREs in her study provided a basis for comparing the influence of learner gender on the amount of interaction produced during task-based interaction between dyads. In the case of the present study, the quantification of interactional episodes is used to evaluate the influence of linguistic assistance (provided to learners as an additional support to facilitate their L2 narrative writing performance) on peer mediation, as well as the influence of peer mediation on subsequent individual L2 writing.

Therefore, the current study adopted the analytical framework of LREs to examine its interactional data. The unit of analysis was the dyad, and occurrences of LREs were aggregated for each dyad. The study also examined participant talk from the point of view of content, using a unit of analysis analogous to the LRE: a *content-related episode*, or CRE. Here, a CRE is operationalised as any part of a dialogue where learners talk about or question, implicitly or explicitly, the content of the task that they are producing. According to the cognitive-oriented writing process model of Flower and Hayes (1981), writing involves the recursive process of generating, selecting and organising ideas, and this was observed in the interactional exchanges amongst the young participants in the present study. In this way, CREs are different from LREs, in that CREs concern the generation and evaluation of ideas for, and the organisation of, the content of the story, whereas LREs concern issues related to the formal aspects of the target language, such as grammar, lexis and mechanics.

Hence, for the purposes of this analysis, a single episode, be it a CRE or LRE,

- (i) focuses on only one language or content point, even when the discussion of this item may appear in different sections of the dialogue (in which case it is what Fortune and Thorp (2001, p. 155) term a *discontinuous episode*);

- (ii) excludes self-corrections which are not triggered by, and not acknowledged by, the task partner. This is because the present analysis focuses only on overt instances of peer-mediated interaction, i.e., what learners say to each other when they collaborate and build on each other's knowledge during production; and
- (iii) does not include utterances which are not acknowledged by the task partner during the interaction.

3.8.2.2 Modifications made to LRE-based analysis

To examine collaborative dialogue, LRE coding based on Swain and Lapkin (1998) focuses on negotiation of meaning (e.g., how to express one's ideas in the target language) and linguistic forms (e.g., how accurate the expression is), and entails *lexis-based LREs* and *form-based LREs*. Whereas *lexis-based LREs* concern instances in which learners deliberate over vocabulary items, *form-based LREs* are related to instances of learner discussion on spelling, morphology, syntax or discourse. This coding is similar to those used by other researchers, including Kim (2012), McDonough and Sunitham (2009), Wigglesworth and Storch (2009), and Zeng and Takatsuka (2009), in describing attention to, and reflection on, linguistic forms during peer interaction. While the present study has adopted this general concept of LREs, given that the focus of Research Question 4 is peer-mediated interaction, with concerns centring on dialogue content, peer assistance and the use of additional mediating resources, four modifications to Swain and Lapkin's (1998) analytical framework for LREs are necessary. First, in addition to the classification of LREs according to the various types of linguistic items that learners focus on and how successful they are at resolving the problems or uncertainties they encounter during task performance, there is a need to examine the nature of collaboration engaged in by learners, in order to show how learner support is offered by task partners. To address this issue, the analysis includes a category for the nature of peer assistance, or the way which an affordance (a meaning-making opportunity) is created for the co-construction of knowledge.

The nature of peer assistance is an important issue to consider, in order to determine how these young learners assist each other during task performance. For a learner to be able to perform a task that is beyond their current level of competence, support needs to be developmentally appropriate. As pointed out by Lantolf and Aljaafreh (1995), the help given needs to be

graduated and contingent in the sense that it moves from more explicit to more implicit, or strategic, levels, and is offered only when needed and is withdrawn once the novice shows signs of self-control and ability to function independently ... or even rejects help when it is offered. (p. 620)

Therefore, the first modification to Swain and Lapkin's (1998) framework involves examining the types of peer assistance offered by learners acting as experts during discussion of their writing. This not only reveals the extent, explicitness and quality of the help given, but also adds information about the mutuality and equality of contribution between learners in the dyad. In addition, the modified analytical framework also looked at whether learner contribution or assistance was accepted or rejected by the partner. This has implications for the types of dialogic support participants in the present study generally found welcome.

The second modification to Swain and Lapkin's framework is the inclusion of CREs in the analysis, as mentioned in the previous section. Learner discussion of CREs is taken as part of the interactional data in the study because the narrative tasks that learners are required to undertake demand more than the ability to produce accurate L2 forms or appropriate word choice. In order to perform a narrative task well, a learner also needs to demonstrate some knowledge of, for example, story elements (e.g., characters, setting, plot, dialogue) and story structure. Further, L2 acquisition entails more than the development of lexical or grammatical competence in the target language, and the inclusion of CREs may contribute to understanding of learner awareness, mediation and development of L2 discourse or even strategic competence.

Third, in their classification of LREs, Fortune and Thorp (2001) highlight aspects of interaction not addressed in their own analytical framework (or in previous research) which mean that these studies were unable to capture fully the dynamism of collaborative dialogue. One such aspect is the *weight* of an episode, or "the extent to which learners appear to be involved in making

linguistic decisions in the process of text construction” (p. 153). Failing to take into consideration the depth of learner engagement in each episode when analysing the interactional data implies inaccurately that all episodes carry equal weight. According to Fortune and Thorp, a weighty episode is one in which “learners draw overtly on their knowledge of the language system or context, or justify their choices with explanation” (ibid.). In order to capture this, the adapted LRE framework adds to its analysis the quality of a partner’s response to the acting expert’s contribution to the discussion. However, for the purposes of this study, the level of analysis for weighting of episodes is limited to a simple categorization of whether the learners’ responses are *elaborate* or *limited* when accepting or rejecting their partner’s contributions. Examples of *elaborate* responses include:

- (i) If the contribution was accepted, the learner responded by:
 - incorporating the word, sentence or idea into the learner’s own utterance and providing clarification or a reason (to self, or partner) for acceptance;
 - providing further suggestions to improve the story; or
 - rephrasing the word, sentence or idea.
- (ii) If the contribution was rejected, the learner responded by:
 - explaining why the response was rejected; or
 - providing counter suggestions.

Examples of *limited* responses include:

- (i) If the contribution was accepted, the learner responded by:
 - merely repeating the word, sentence or idea given by the acting expert;
 - acknowledging the response (by saying, for example, “OK” or “yes”) and continuing with the next part of the story; or
 - merely continuing with the next line of the story without explicitly acknowledging the partner’s response.
- (ii) If the contribution was rejected, the learner responded by:

- an outright rejection (e.g., “I don’t think so”) and not providing any explanation; or
- not responding to the response.

Elaborate responses are considered to produce weighty episodes whereas limited ones produce light episodes. This simple categorization provides insights into the extent to which young ESL learners involve in making linguistic decisions in the process of collaborative narration.

The fourth modification, specific to the treatment conditions and classroom context of the present study, concerns learners’ use of the written linguistic assistance and of their L1 as additional mediating resources during task performance. Here, instances in which learners overtly consult the written support during an exchange are identified, in order to compare the extent to which enhanced and basic linguistic assistance are being used to mediate learners’ deliberation over meaning and over specific L2 forms during L2 narration. Such instances may occur when learners request help from, or offer support to, their partner. In addition, instances in which learners use the L1 to focus attention on linguistic forms, and to verbalise their thinking as they engage in collaborative dialogue are identified, to determine the extent to which they resort to the L1 to mediate the discussion of their writing when they are provided with different degrees of linguistic assistance.

Fortune and Thorp (2001) further suggest a fourfold classification to describe the nature of episodes, i.e., continuous or discontinuous, embedded, overlapping and entangled episodes. However, it was decided that such a classification of LREs and CREs would not add further insights into the answer for Research Question 4.

3.8.2.3 Identification and coding of CREs and LREs

All recorded pair dialogues in the DyadicEA and DyadicBA Groups were transcribed, in order to identify the CREs and LREs of each dyad.

There were four stages to the analysis process: identification of CREs and LREs, categorisation and coding, subcategorisation and coding, and quantification of episodes. Although no specific *a*

priori assumptions were made to characterize the peer interactions, the process of identifying interactional episodes was guided by three areas of concern: dialogue content, peer assistance and the use of additional resources to mediate collaborative dialogue. Nonetheless, the identification and coding were largely driven by the data. Through an iterative process, the identification and coding were refined to account for all relevant interactional features. As a result of this, eight characteristics of episodes, comprising 40 subcategories, were identified, as shown in Table 5. The description of each category of interactional episodes is provided below. (An example of the analysis of learner dialogue is shown in Appendix 22.)

Table 5

Categories and subcategories of interactional episodes for analysis

Category of interaction		Subcategory of interactional episodes
(i)	Focus of episodes (subtypes of CREs and LREs)	*1= Idea-based CRE
		2= Structure-based CRE
		3= Lexical LRE
		4= Spelling LRE
		5= Sentence structure LRE
		6= Verb tenses and form LRE
		7= Connectives LRE
		8= Punctuation LRE
		9= Other form-based LRE
(ii)	Activation of peer expertise	1= Requested assistance
		2= Unrequested assistance
		3= Mutual contribution
(iii)	Nature of peer assistance (acting expert's contribution)	1= Providing approval
		2= Indicating that something needs alteration, but not giving further help
		3= Asking question to raise partner's awareness
		4= Prompting
		5= Proposing alternatives
		6= Telling/directing/instructing
		7= Correcting
		8= Explaining/clarifying
		9= Indicating that something needs improvement or alteration, and working together to obtain solution
		10= Asking question to raise own awareness, understanding or knowledge of partner's meaning (reflection)
(iv)	Partner's response to expert's contribution	1= Accepted
		2= Rejected
		3= Discussion discontinued
(v)	Quality of response (level of engagement)	1= Elaborate, with justification
		2= Elaborate, with suggestion
		3= Elaborate, rephrasing
		4= Limited, repeating
		5= Limited, short direct response to show acknowledgement
		6= Limited, acknowledgement not verbalized
		7= Discussion discontinued
(vi)	Episodes involving the use of the first language	1= Use of L1
		2= No use of L1
(vii)	Peer consulting linguistic assistance during exchange	1= Explicit reference to linguistic assistance
		2= No reference to linguistic assistance
(viii)	Types of resolution	1= Appropriately solved
		2= Inappropriately solved
		3= Unresolved and abandoned
		4= Unresolved, leading to a request for outside intervention

* Code given to each category

(i) Focus of episodes (subtypes of CREs and LREs)

In this category, the different types of CREs and LREs are identified and coded for the focus of the discussion. This is done to examine the content of learner dialogue. Two main types of CREs were found in learners' discussions:

1. *Idea-based CREs*: instances in which learners focus on the quality of ideas or content.

Excerpt 1 is an example of an idea-based CRE:

Excerpt 1 (taken from the DyadicEA Group, *Pair 1A (high ability), Week 1 Day 1)

**21 *P1A12 : =With, I think it's gonna be, with (.) with scared feeling or frightened feeling, he ran to meet someone to talk someone that there is crocodile near a river.

22 P1A14 : Hmm, how about (.) after he saw the crocodile (.) without wasting time, he ran to his brothers.

* Pair 1A refers to: 1 = Class 1, A = high ability

** 21 = Turn 21

*P1A12 refers to: P = Pupil, 1 = Class 1, A = Pair A, 12 = Pupil 12

Note: (.) shows a pause of not more than 1 second

= shows that a current talk is followed immediately by another person's talk

A and B are high ability dyads, C and D are average ability dyads, and E is a low ability dyad. Classes 1, 2 and 3 form the Dyadic Enhanced Linguistic Assistance Group whilst Classes 4, 5 and 6 form the Dyadic Basic Linguistic Assistance Group.

2. *Structure-based CREs*: instances in which learners talk about the sequencing or organisation of ideas, paragraphing, or structure of a narrative (e.g., introduction, complication, resolution). In Excerpt 2, the learners discuss the order of events in their story:

Excerpt 2 (taken from the DyadicEA Group, Pair 1C (average ability), Week 2 Day 2)

60 P1C15 : The wallet- the woman saw his (.) her- her wallet

61 P1C18 : The woman saw the little girl *dulu* <first>

Note: - shows a word that is abruptly ended

Italics denotes text in Malay

< > shows the translation from Malay

Two main types of LREs were found in the interactional data: *lexis-based LREs* and *form-based LREs*. Two prominent subtypes of lexis-based LREs that emerged from the data were:

3. *Lexical LREs*: instances in which learners search for an appropriate word or phrase, question or explain the meaning, usage or correctness of a word or phrase, or provide an alternative word or expression (including phrasal verbs, metaphors, etc.). The following is an example of a lexical choice LRE:

Excerpt 3 (taken from the DyadicEA Group, Pair 1C (average ability), Week 3 Day 2)

- 48 P1C18 : ((waits for her partner to write the story)) Honest Omar ask (6) E-D (4)
ask Timid Tassim (3) did you feeling bored? (7) F-E-E-L
49 P1C15 : Filling *jua nya mu*. <You said 'filling'.>
50 P1C18 : Filling *atu menuang tu*. <That 'filling' means to pour.> ((laughs))
51 P1C15 : feeling bored
52 P1C18 : feeling bored. Timid Tassim said (7) no (.) no because I love fishing.

Note: (()) shows transcriber's descriptions of the talk and/or context
(#) shows the length of a pause in seconds

4. *Spelling LREs*: instances in which learners focus on the spelling of words. In the following example, a learner and his partner discuss the spelling of the word *one* while writing the story:

Excerpt 4 (taken from the DyadicEA Group, Pair 3E (low ability), Week 4 Day 2)

- 3 P3E183 : One day
4 P3E182 : O-N-E *kah*? <Is it O-N-E?>
5 P3E183 : W-A-N T-H-E-Y
6 P3E182 : O-N-E?
7 P3E183 : One day, W-A-N
8 P3E182 : When?
9 P3E183 : One
10 P3E182 : One *jua*, <It is 'one'> O-N-E, one ah. One day
11 P3E183 : Yeah ah. One day

The following subtypes of form-based LREs have been distinguished, in order to capture the different types of grammatical features found in the data:

5. *Sentence structure LREs*: instances in which learners talk or ask about word order or the construction of compound or complex sentences. In Excerpt 5, a learner suggests to his

partner an alternative way of presenting his sentences, while in Excerpt 6, a learner corrects his partner's word order (Turn 23):

Excerpt 5 (taken from the DyadicEA Group, Pair 1B (high ability), Week 1 Day 2)

- 9 P1B3 : He swam (.) he heard a sound.
10 P1B11 : How about (.) when he swam he heard some sound?

Excerpt 6 (taken from the DyadicEA Group, Pair 3E (low ability), Week 2 Day 2)

- 22 P3E82 : Friendly Faridah, you, you want eat cake this? Yes, I want=
23 P3E83 : =eat this cake.

6. *Verb tenses and form LREs*: instances in which learners focus specifically on verb tense and form. Excerpt 7 shows a learner reminding his partner to use the past tense form of the verb *go*:

Excerpt 7 (taken from the DyadicEA Group, Pair 1B (high ability), Week 1 Day 2)

- 72 P1B11 : Lucky Lucas brothers go home
73 P1B3 : Went home
74 P1B11 : Ah, went home, sorry.

7. *Connectives LREs*: instances in which learners talk or ask about the use of specific connective devices. Excerpt 8 is an example:

Excerpt 8 (taken from the DyadicEA Group, Pair 1C (average ability), Week 2 Day 1)

- 26 P1C15 : And she saw a wo- =
27 P1C18 : =after that she saw a woman. *Ani lah aku buat* then. <This one, I use 'then'.> Then she saw a woman.

8. *Punctuation LREs*: instances in which learners focus on the use of punctuation. The example below shows a learner asking her partner if a full stop is the appropriate punctuation mark to use after the connective *After that*:

Excerpt 9 (taken from the DyadicEA Group, Pair 1A (high ability), Week 2 Day 2)

- 7 P1A12 : After that
8 P1A14 : Full stop?
9 P1A12 : Comma, she ran (3) as fast (2) as she could.

9. *Other form-based LREs*: instances in which learners focus on other grammatical items such as morphology (including inflectional or derivational noun morphology), pronouns,

articles and prepositions. In the example below, a learner corrects her partner's use of the article *a* to *the* (Turn 39).

Excerpt 10 (taken from the DyadicEA Group, Pair 1C (average ability), Week 2 Day 2)

38 P1C15 : =When a little girl

39 P1C18 : When the little girl

There is a match between the categories of LREs and CREs and the criteria in the Brunei National Study of Student Competencies in Mathematics and English (NSSCME) 2008 Writing Test Rubric used to rate the writing performance of learners in the pretest and posttests of the current study. The categories of lexical choice and spelling as subtypes of lexis-based LREs, for instance, correspond to the writing criterion of *Vocabulary and spelling*. Grammar, syntax, connective devices and punctuation as subtypes of form-based LREs, on the other hand, correspond to *Implicit grammar*. Idea-based CREs correspond to *Quality of ideas*, and structure-based CREs correspond to *Story shape and structure*. Importantly, because there is a match between respective categories of episodes and the NSSCME Writing Test, the quantity and quality of interaction can be compared to the quality of writing learners produced.

After the different types of CREs and LREs were identified, their characteristics were further categorized in seven ways: activation of peer expertise, nature of peer assistance, types of partner's response, quality of partner's response, episodes involving the use of the first language, peer consulting linguistic assistance during exchange, and types of resolution. The following operational definitions, pertaining to both CREs and LREs, were established at the onset of data analysis to guide the identification and coding of specific characteristics of interactional episodes. In addition, these definitions enable a second coding of a percentage of the interactional data by another coder, in order to check the reliability of the coding scheme. The definitions here were not divided into CREs and LREs because they mainly describe the nature of learner assistance, level of engagement in learner response and outcome of each discussion, and these are general, rather than content- or form-specific, aspects of any collaborative act. The operational definitions below are accompanied by excerpts of CREs and LREs taken from children's recorded conversation to illustrate the context in which they occur.

(ii) Activation of peer assistance

This category looks at how an opportunity to provide assistance is triggered in an interactional space for the co-construction of knowledge. Such assistance, which may be *requested* or *unrequested*, is often given by an *acting expert*. An acting expert is one who is perceived by the learner himself or herself, or by the task partner, to possess the appropriate knowledge and/or problem-solving skills to enable the pair to work within the collective zone of proximal development at a particular time. The term *acting* denotes a role that is assumed by a learner as being what Vygotsky (1978) would describe as “the more capable peer” in leading a discussion, as opposed to having a true expert (such as a teacher, parent or a highly proficient peer) in the relationship to guide the novice. Also, *acting* alludes to the changeable role of learners as experts in a dyad. On the other hand, it may be *mutual contribution* from both learners in a dyad, in which case, expertise is jointly created through collective scaffolding.

1. *Requested assistance*: A learner provides help when a task partner requests, either directly (e.g., asking for suggestion or affirmation) or indirectly (e.g., pausing mid-sentence and waiting for the partner to complete the utterance), for one.

Excerpt 11 (CRE, taken from the DyadicBA Group, Pair 6A (high ability), Week 1 Day 1)

- 22 P6A235 : Ah, Honest Omar was open the lamp
23 P6A234 : And, and?
24 P6A235 : inside the lamp have a genie.
25 P6A234 : What did Honest Omar and Timid Tassim do?
26 P6A235 : Honest Omar and Timid Tassim (.) *entah eh* <I don't know>
27 P6A234 : will look, will look
28 P6A235 : will look inside the lamp.

Excerpt 12 (LRE, taken from the DyadicEA Group, Pair 1C (average ability), Week 2 Day 2)

- 57 P1C18 : *Macam mana eja* started? <How do you spell 'started'?>
58 P1C15 : S-T-A-R-T-E-D

2. *Unrequested assistance*: A learner initiates help, even though the partner has not requested or given any indication that it is needed.

Excerpt 13 (CRE, taken from the DyadicEA Group, Pair 3B (high ability), Week 6 Day 2)

- 33 P3B179 : His mother said, I know whose footprints.
 34 P3B185 : His mother ask Honest Omar, this is your footprint or not? I don't know=
 35 P3B179 : =*Inda payah*. <No need.> This is your footprints, right? Why you don't clean your shoes after playing football?

Excerpt 14 (LRE, taken from the DyadicBA Group, Pair 5B (high ability), Week 1 Day 2)

- 76 P5B204 : he jumped to the river
 77 P5B203 : out
 78 P5B204 : out the river
 79 P5B203 : out of the river.

3. *Mutual contribution*: Both learners provide help to each other by pooling their resources as they work together to reach a consensual resolution. There is no one clear expert during the exchange.

Excerpt 15 (CRE, taken from the DyadicBA Group, Pair 5A (high ability), Week 6 Day 1)

- 59 P5A212 : Maybe the genie wants his memory, cannot remember the genie again.
 60 P5A211 : Or the genie want=
 61 P5A212 : =the genie destroy the lamp and never came back.
 62 P5A211 : Or the magic lamp was
 63 P5A212 : gone. Suddenly.
 64 P5A211 : No, no.
 65 P5A212 : Or, or the genie destroy the lamp, yeah.
 66 P5A211 : Maybe the genie (.) maybe the genie throwing away
 67 P5A212 : Throw the (.) the magic lamp into the river again? And then Honest Omar tried to get the lamp again and never get it? Yeah.

Excerpt 16 (LRE, taken from the DyadicEA Group, Pair 1D (average ability), Week 3 Day 2)

- 92 P1D20 : Mm, how to spell Ferrari?
 93 P1D22 : F-E-R-R-I
 94 P1D20 : Fe- Ferri, Ferrari *inda*? <not Ferrari?> Fe-ra-ri, Fe- Fe-ri, Fe-
 95 P1D22 : *Macam* –I *salah*. <'I' seems incorrect.>
 96 P1D20 : F-E-R-A
 97 P1D22 : R-I. F-E-R-R-A-R-I Ferrari car.

(iii) Nature of peer assistance (acting expert's contribution)

This category concerns the types of assistance young learners offer to each other in a dyad during collaborative dialogue. The contribution from an acting expert may be a response to a partner's request for assistance, or the expert's own initiative to add to the discussion. Analysis of the transcripts in the present study yielded ten different types of peer assistance, which can be subcategorized as *passive peer tutoring*, *active peer tutoring* and *mutual scaffolding*. *Peer tutoring* (Damon & Phelps, 1989; Fuchs, Fuchs, Mathes, & Simmons, 1997) refers to an asymmetric dyadic interaction in which one learner has more expertise on a particular language issue than the partner, and is thus afforded the role of an expert during the exchange, while *mutual scaffolding* (de Guerrero & Villamil, 2000; Donato, 1994) refers to a symmetric dyadic interaction in which there is no clear expert during an exchange, and both learners share their ideas and resources in order to jointly solve a linguistic difficulty.

In *passive peer tutoring*, learners are found not to offer solutions or explanations directly to their task partners. This includes peer assistance offered in the form of *Providing approval*, *Indicating that something needs alteration, but not giving further help*, *Asking question to raise partner's awareness* and *Prompting*.

1. *Providing approval*

- a) A learner acknowledges the partner's question or comment, but does not provide further information or explanation.
- b) A learner shows agreement in response to the partner's enquiry, but does not elaborate.

Excerpt 17 (CRE, taken from the DyadicEA Group, Pair 1C (average ability), Week 1 Day 1)

- 7 P1C15 : Ok. (.) Let me talk about picture one. (5) One hot day (3) *siapa namanya?*
<what is his name?> Lucky Lucas. (5) One hot day Lucky Lucas (.)
wanted to go swimming at the river. (.) Is that good?
- 8 P1C18 : Ye:s. (.) Go:od.

Note: : shows prolongation of sound within a word

Excerpt 18 (LRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 2 Day 2)

- 49 P3D187 : And Friendly Faridah opened his present. I think Timid Tassim (.)
when Friendly Faridah opened the present, Friendly Faridah see a
shoes, a lady shoes and a shirt. Shirt, *baju kan?* <is it 'shirt'?>
50 P3D184 : *Au.* <Yes.>

2. *Indicating that something needs alteration, but not giving further help*

- a) A learner informs the partner that his or her utterance is erroneous or unacceptable (without stating what the perceived error was), and does not provide further information or explanation.
- b) A learner explicitly identifies a perceived error in the partner's utterance, but does not explain why the utterance is incorrect or provide corrective feedback.
- c) A learner repeats the partner's erroneous utterance without providing alternatives or corrective feedback.

Excerpt 19 (CRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 7 Day 1)

- 5 P3D187 : Okay. One day Lucky Lucas want to swimming at the river but he
don't have any friend. He
6 P3D184 : *bukan macam itu* <It's not like that>

Excerpt 20 (LRE, taken from the DyadicEA Group, Pair 1E (low ability), Week 2 Day 1)

- 50 P1E2 : Yes. Then the police was calling her parents. Her parents said, I'm
sorry because my doctor
51 P1E6 : Doctor? ((laughs))
52 P1E2 : Because my daughter (.) took a purse.

3. *Asking question to raise partner's awareness*

This includes the acting expert's request for clarification, elaboration or confirmation, in order to draw the partner's attention to a perceived problem, uncertainty or even a possible (better) alternative in the preceding utterance(s).

Excerpt 21 (CRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 7 Day 1)

- 43 P3D187 : but his brother don't believe about a crocodile want eat Lucky Lucas.
44 P3D184 : *Ia inda percaya kan? Ani. Picture ani. Kalau ia inda percaya, kenapa ia ke sana?* <Did they not believe? This. This picture. If they didn't believe, why did they go there?>

Excerpt 22 (LRE, taken from the DyadicEA Group, Pair 1C (average ability), Week 1 Day 2)

79 P1C15 : To swam on his own.

80 P1C18 : Swam?

4. *Prompting*

- a) A learner uses partial repetition to engage the partner in a reformulation.
- b) A learner uses a key word or grammatical terminology to help the partner to construct a discussion.
- c) A learner uses a key word or grammatical terminology to help the partner to extend a discussion.

Excerpt 23 (CRE, taken from the DyadicBA Group, Pair 5E (low ability), Week 7 Day 2)

24 P5E205 : The end the Friendly Faridah very sad.

25 P5E201 : very sad because

26 P5E205 : because the cake is falling down and the Timid Tassim and Moody Mimi very sorry. The end.

Excerpt 24 (LRE, taken from the DyadicEA Group, Pair 1C (average ability), Week 1 Day 2)

73 P1C15 : Moody Mimi (2) Moody Mimi (2) but Moody Mimi

74 P1C18 : Moody Mimi *apa?* <what?>

75 P1C15 : Not at home.

76 P1C18 : wasn't

77 P1C15 : wasn't

78 P1C18 : Moody Mimi wasn't

79 P1C15 : Moody Mimi wasn't at home.

Active peer tutoring, on the other hand, refers to the types of peer assistance in which learners provide definitions, alternative solutions, clarifications or corrections directly to their task partners. *Proposing alternatives*, *Telling/directing/instructing*, *Correcting* and *Explaining/Clarifying* are placed under the subcategory of active peer tutoring.

5. *Proposing alternatives*

Explicit reflection on or discussion about language may also take the form of a learner offering suggestions of alternative ideas, words, linguistic forms or sentences.

Excerpt 25 (CRE, taken from the DyadicEA Group, Pair 1B (high ability), Week 1 Day 1)

- 11 P1B3 : He swam in the river for ten minutes.
 12 P1B11 : Ten minutes? Mm, how about for, mm, eight minutes?
 13 P1B3 : Ok, that's nice. And if ten minutes he will be tired. (4) Then Lucky Lucas stopped (.) and rested.

Excerpt 26 (LRE, taken from the DyadicEA Group, Pair 3C (average ability), Week 5 Day 2)

- 46 P3C195 : At night he was dream a bad dream.
 47 P3C192 : How about, at night he fell asleep and had a bad dream?

6. *Telling/directing/instructing*

- a) A learner gives a definitive, non-negotiable answer to a partner's question or request for help.
- b) A learner instructs the partner on what to say or write (based on, for instance, a grammatical structure taught prior to the task) or how the narration should proceed.
- c) A learner presents his or her opinion on what structure, word or expression is considered to be grammatically correct or acceptable.

Excerpt 27 (CRE, taken from the DyadicEA Group, Pair 1D (average ability), Week 1 Day 2)

- 18 P1D20 : And his mother and his father.
 19 P1D22 : *Inda wah, nada his father and mother wah eh.* <No, there's no father and mother.> *Aku cakap* <I said> in the end the police station ask the-ask Lucky Lucas about the story of the crocodile.

Excerpt 28 (LRE, taken from the DyadicBA Group, Pair 5C (average ability), Week 4 Day 2)

- 78 P5C214 : Moody Mimi was or is or were?
 79 P5C215 : *was saja wah* <just 'was'>

7. *Correcting*

A learner provides corrective feedback (e.g., a recast) in response to what he or she perceives as an inaccurate or inappropriate utterance given by the partner. At this point of the analysis which concerns how help is provided by peers, the correctness or necessity of the feedback is not taken into account. This will be taken up in the *Partner's response to expert's contribution* category which shows whether the suggested feedback

is accepted or rejected by the partner. While the analysis does not fully show the accuracy of the learner's corrective feedback or of the partner's initial utterance, the *Types of resolution* category demonstrates whether the final outcome is correctly or incorrectly solved.

Excerpt 29 (CRE, taken from the DyadicEA Group, Pair 3C (average ability), Week 6 Day 2)

- 61 P3C195 : After take a shower he wear her clothes and go to kitchen for a dinner.
 62 P3C192 : After take a shower he go to kitchen.
 63 P3C195 : Huh? *Apakan?* <What?> After take a shower *indakan ia tarus ke dapur?* <how could he go straight to the kitchen?> After take a shower he go to his room and wear a clothes. After he wear a clothes he go to kitchen for dinner with his family.

Excerpt 30 (LRE, taken from the DyadicEA Group, Pair 1B (high ability), Week 2 Day 1)

- 49 P1B3 : Then (.) suddenly the policeman saw the little girl crying. Then the little girl told that she slipped by a banana peel. But the policeman remember that she took (.) the wallet from a lady.
 50 P1B11 : How about from the lady?
 51 P1B3 : It's the same. The lady?
 52 P1B11 : I said the lady. You're saying a lady but I say the lady.
 53 P1B3 : Ok, sorry, so:rry.

8. *Explaining/clarifying*

- a) A learner answers a partner's question about his or her own production.
- b) A learner indicates a perceived error in the partner's utterance and explains why it is erroneous or unacceptable.
- c) A learner suggests a change to the text and explains why an alternative formulation is needed or considered more appropriate to the flow or structure of the story.
- d) A learner uses the L1 equivalent of a word to explain the meaning of the word or expression.

Excerpt 31 (CRE, taken from the DyadicEA Group, Pair 1D (average ability), Week 1 Day 2)

- 83 P1D22 : And cage
 84 P1D20 : Cage? Cage? *Pasal?* <Because?>
 85 P1D22 : *Pasal* cage, *kan durang kurung jua tu kan, kalau inda keluar jua tu* <Cage, because they need to keep it in, otherwise it will come out.>

Excerpt 32 (LRE, taken from the DyadicBA Group, Pair 5A (high ability), Week 1 Day 1)

- 52 P5A211 : Oh yeah. Is it erm (.) is it eh the boy or a girl, the crocodile?
53 P5A212 : Maybe a boy (.) because it looked vicious.
54 P5A211 : Yeah. Okay, I want to ask to you, what is vicious?
55 P5A212 : Vicious means very bad.

Mutual scaffolding tends to occur in collaborative dialogues where there is no clear expert. Both learners in a dyad are observed to contribute to and utilize each other's linguistic resources as they work toward a resolution. The two types of peer assistance regarded as mutual scaffolding are *Indicating that something needs improvement or alteration, and working together to obtain solution* and *Asking question to raise one's own awareness, understanding or knowledge of partner's meaning*.

9. *Indicating that something needs improvement or alteration, and working together to obtain solution* (no clear expert)
- a) A learner informs the partner that his or her utterance may be problematic and asks questions, in order to gain a better understanding of the partner's intended meaning. Both learners then work together to modify the utterance.
 - b) A learner points out that the preceding utterance(s) may be erroneous, but neither he or she nor the partner has a ready solution. Both learners then provide each other with suggestions and feedback, in order to resolve the problematic linguistic situation.
 - c) Learners ask questions and provide feedback to each other, in order to transform the structure or organization of the story together.
 - d) Learners ask questions and provide feedback to each other in their negotiation of word choice or meaning of the story.

Excerpt 33 (CRE, taken from the DyadicEA Group, Pair 3A (high ability), Week 5 Day 1)

- 33 P3A191 : *Tapinya ani, macam mana ia boleh jadi monster plant ani?* <But this, how did it become this monster plant?>
 34 P3A193 : Because Timid Tassim was watered the bean seeds.
 35 P3A191 : Erm (.) *tapinya indakan ia tarus-tarus tumbuh kali, jadi basar.* <but it could not have just grown and become big.>
 36 P3A193 : Eh, *au ah, macam mana tu ah?* <oh yes, how do we go about it?>
 37 P3A191 : Eh, *tumpah apa bahasa inggeris?* <what is ‘spill’ in English?>
 38 P3A193 : *Entah.* <I don’t know.>
 39 P3A191 : *Tumpah.* Sir, *kalau tumpah apa?* <Spill. Sir, how do we say ‘spill’?>
 40 P3A193 : Spill (.) S-P-I-L-L
 41 P3A191 : When Timid Tassim was watered the bean seeds, the bean seeds was=
 42 P3A193 : =eh, the water, the water spill, spill.
 43 P3A191 : Spill. The bean seeds then become big and big and big.
 44 P3A193 : big and big and big. ((laughs))

Excerpt 34 (LRE, taken from the DyadicBA Group, Pair 5C (average ability), Week 8 Day 2)

- 14 P5C215 : Last Sunday Moody Mimi
 15 P5C214 : Last Sunday Moody Mimi and friends
 16 P5C215 : Last Sunday Moody Mimi and her friends
 17 P5C214 : went
 18 P5C215 : were to the picnic.
 19 P5C214 : were go to the beach.
 20 P5C215 : *Aku*, picnic. <Mine’s picnic.>
 21 P5C214 : go to the beach and then he picnic.
 22 P5C215 : Last Sunday Moody Mimi and her friends went to the picnic.
 23 P5C214 : *Ada picnic kan?* <Is there ‘picnic’?>
 24 P5C215 : No. *Ada beach kan?* <Is there ‘beach’?>
 25 P5C214 : *Ia di beach.* <They were at the beach.>
 26 P5C215 : Last Sunday Moody Mimi and her friends went to the beach.

10. *Asking question to raise one’s own awareness, understanding or knowledge of partner’s meaning* (no clear expert)

Here, there is no indication that the learners detect an error or linguistic problem.

- a) A learner asks a question to better understand why a linguistic or semantic modification is made.
- b) A learner asks a question to clarify their own understanding of the partner’s intended meaning or decision.

Excerpt 35 (CRE, taken from the DyadicEA Group, Pair 1E (low ability), Week 1 Day 2)

- 29 P1E6 : They find the crocodile. They was (.) they (.) kill the crocodile, I think.
 30 P1E2 : But, how they kill?
 31 P1E6 : Hah?
 32 P1E2 : They use what to kill the crocodile?
 33 P1E6 : Erm, what they have
 34 P1E2 : Weapon?
 35 P1E6 : Weapon, yeah.
 36 P1E2 : Erm, yes, I think so. I think what happen in the end the crocodile was dead.

Excerpt 36 (LRE, taken from the DyadicEA Group, Pair 1A (high ability), Week 6 Day 2)

- 52 P1A14 : When their teacher (5) came to their classroom (10) Friendly Faridah and all her friends greet their teacher.
 53 P1A12 : Greet, do we use the past tense?
 54 P1A14 : Greet. Greeted, her friends greeted their teacher. After they greeted the teacher (4) the teacher start to teach them
 55 P1A12 : the teacher
 56 P1A14 : started to teach them.

(iv) Partner's response to expert's contribution

This category of learner talk considers whether the acting expert's contribution is accepted (coded as *Accepted*), or rejected (coded as *Rejected*) by the task partner.

1. *Accepted*: Excerpts 37 and 38 provide examples from the data to show a learner's suggestion being accepted by the task partner.

Excerpt 37 (CRE, taken from the DyadicEA Group, Pair 3A (high ability), Week 5 Day 2)

- 54 P3A193 : He heard a loud sound from the science lab and he found=
 55 P3A191 : =he found the bean seeds
 56 P3A193 : He found the plant become (.) a monster plant? Eh, *payah eh*. <this is difficult.>
 57 P3A191 : Erm, *macam mana* <how about>, he heard a loud sound from the science lab and he saw the bean seeds become a monster plant and the monster plants calling his name. Are you agreed?
 58 P3A193 : Yes.

Excerpt 38 (LRE, taken from the DyadicBA Group, Pair 5C (average ability), Week 4 Day 2)

- 41 P5C215 : =when morning Timid Tassim give

- 42 P5C214 : Timid Tassim put, put ah. Give *kah ataupun* put? <Give or put?> Give, *bagi. Apakah dibagi?* <What is there to give?>
 43 P5C215 : Ah, put bean seed to the jar.

2. *Rejected*: Excerpts 39 and 40 demonstrate suggestions rejected by the partners.

Excerpt 39 (CRE, taken from the DyadicBA Group, Pair 5A (high ability), Week 1 Day 1)

- 24 P5A211 : Hm. The dear brothers went to the river and catch the crocodile. I think so.
 25 P5A212 : Maybe=
 26 P5A211 : =yeah=
 27 P5A212 : =but when they catch the crocodile they will be killed too.

Excerpt 40 (LRE, taken from the DyadicEA Group, Pair 1B (high ability), Week 5 Day 2)

- 5 P1B3 : One clear morning Moody Mimi and her friends decided to go
 6 P1B11 : went
 7 P1B3 : to go
 8 P1B11 : went
 9 P1B3 : to go
 10 P1B11 : It's past tense.
 11 P1B3 : to go for a picnic. *Inda kan* <It cannot be> to went for a picnic, it's to go for a picnic.

3. Sometimes a discussion may also be discontinued (coded as *Discussion discontinued*), and in such a case, a contribution from the learner is left not followed through. Excerpt 41, for instance, shows how a learner's suggestion of the main character in the story to *take a shower* is abandoned by his partner. Excerpt 42, on the other hand, shows a learner struggling with the word *puddle*, but this is not taken up by her partner during the process of sentence construction.

Excerpt 41 (CRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 6 Day 2)

- 30 P3D184 : And he was whistling happily toward his room
 31 P3D187 : to take a shower.
 32 P3D184 : he was whistling happily toward his room
 33 P3D187 : to take a shower *inda jadi?* <no longer in?>
 34 P3D184 : when his mother was so angry to Honest Omar that because the floor was so muddy and so very dirty floor

Excerpt 42 (LRE, taken from the DyadicBA Group, Pair 6C (average ability), Week 6 Day 1)

- 11 P6C255 : Then Honest Omar *ia terpijak, apa tu, puddy?* P-U-D-D-Y, {puddy} *kali? Ia terpijak* {puddy} *atu, lapas atu arah kasutnya atu kamah.*
 <Then Honest Omar, he stepped on, what is that, {puddy}? P-U-D-D-Y, {puddy} maybe? He stepped on that {puddy}, after that his shoes were dirty.>
- 12 P6C246 : The shoes is very dirty.

(v) Quality of response (level of engagement)

This category here captures how learners are responding to each other in a dyad. When learners are accepting or rejecting their partners' contributions, their utterances are distinguished between *elaborate* and *limited* responses, in order to highlight the level of engagement involved during each discussion. *Elaborate* responses are considered as high-level engagement between participants, and these comprise talk that demonstrate reciprocal engagement of ideas or linguistic knowledge. This is contrasted with *limited* responses, which are considered as low-level engagement. These consist of responses that do not appear to facilitate further discussion.

1. *Elaborate, with justification*

- a) A learner, in accepting the partner's contribution, responds by incorporating the word, sentence or idea into his or her own utterance and providing clarification or a reason (to self, possibly) for acceptance.
- b) A learner provides an explanation for rejecting the partner's contribution.

Excerpt 43 (CRE, taken from the DyadicBA Group, Pair 5A (high ability), Week 1 Day 1)

- 14 P5A211 : Oh yeah. Erm, he went to the river on his own. A:nd he swam for five minutes. After that he stopped and rested. Suddenly he heard a sound. He saw a crocodile. And he hide behind the {bash}.
- 15 P5A212 : Nah, I don't agree about that. You know what? Lucky Lucas do not hide behind the bushes. He run away.
- 16 P5A211 : Oh yeah, he was frightened, right?
- 17 P5A212 : Yeah, he run away.
- 18 P5A211 : Mm.
- 19 P5A212 : You don't want to hide in the bushes where the crocodile in there.
- 20 P5A211 : You're right.

Excerpt 44 (LRE, taken from the DyadicBA Group, Pair 6A (high ability), Week 2 Day 2)

- 16 P6A235 : After that they (.) after that they sang, S-A-N-G, sang to Friendly Faridah a song.
- 17 P6A234 : sing. Sing, sing, sing, sing.
- 18 P6A235 : Eh, *ani anu jua ni, apa namanya ni*, last week. Past tense *jua tu*. <this is, what's its name, last week. It's past tense. > Sang. To Friendly Faridah but (.) but (3) but

2. *Elaborate, with suggestion*

- a) A learner provides further suggestions to an accepted contribution from the partner.
- b) A learner provides counter suggestions after he or she has rejected the partner's contribution.

Excerpt 45 (CRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 3 Day 2)

- 22 P3D187 : I think, I think, said Timid Tassim is, let's use gold coin to buy Manchester United coat, said Timid Tassim.
- 23 P3D184 : How about, we buy a sweater for the hot summer day?
- 24 P3D187 : Maybe not. How about, let's use gold coin to buy Manchester United coat, said Timid Tassim.
- 25 P3D184 : Maybe not. Let's buy a sweater.
- 26 P3D187 : No.
- 27 P3D184 : Let's buy a sweater for the hot day.
- 28 P3D187 : *Panas jua tu bah*. <It's hot.> No. No. *Ani, biarkan tia bah*. <Just let this be.> *Kalau Manchester udah, Arsenal tia*. <After Manchester, then Arsenal.>
- 29 P3D184 : No, I don't like it. Maybe not Manchester, how about Arsenal?
- 30 P3D187 : No Arsenal. Maybe Manchester.
- 31 P3D184 : I don't agree.
- 32 P3D187 : No. *Biar tia bah*. <Just let this be.> Moody Mimi said, may be not. Timid Tassim said, no, I want to buy Manchester United and Arsenal coat.

Excerpt 46 (LRE, taken from the DyadicBA Group, Pair 5A (high ability), Week 8 Day 2)

- 8 P5A211 : Last Sunday Moody Mimi, Timid Tassim, Friendly Faridah and Honest Omar going
- 9 P5A212 : No, were going
- 10 P5A211 : went for a picnic.
- 11 P5A212 : went for a picnic, that's good too.

3. *Elaborate, rephrasing*

A learner rephrases the word, sentence or idea. This is considered high-level engagement because it involves the learner considering the partner's ideas, opinion or linguistic knowledge, then selecting and using his or her own words to create a response that is related to the partner's earlier contribution, in order to arrive at a better solution.

Excerpt 47 (CRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 2 Day 2)

- 42 P3D184 : How about, Timid Tassim pushed Moody Mimi and then Moody Mimi was very angry that Timid Tassim pushed her (.) and (.) pushed her and smashed Friendly Faridah's cake?
- 43 P3D187 : Very nice. Friendly Faridah's cake, birthday cake, *tambah lagi*. <add some more.> And Friendly Faridah said, please don't fell on my cake, please. Because I don't have any idea again. Moody Mimi was so very angry because Timid Tassim pushed Moody Mimi into Friendly Faridah cakes.
- 44 P3D184 : Moody Mimi was so angry that her face was covered in chocolate cake.
- 45 P3D187 : ((P reads the text.)) Please don't smashed my cake. Moody Mimi was so angry that her face was covered in chocolate cake. ((laughs)) It's very funny.

Excerpt 48 (LRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 2 Day 2)

- 31 P3D187 : ((P describes the fourth picture.)) Okay. On the number four, Timid Tassim say, a::h, the spider. Help, help me. The spider is very scary. Like that?
- 32 P3D184 : Maybe not. How about, a::h, the spider is on my shoulder. Help, help. It, the spider is very scary.
- 33 P3D187 : Maybe not. How about, a::h, the spider. Help, help me. The spider is very scary. Like that is a good.
- 34 P3D184 : How about, a::h, the spider is scary. Help, help.
- 35 P3D187 : Mm, okay.

4. *Limited, repeating*

A learner merely repeats the word, sentence or idea given by the acting expert.

Excerpt 49 (CRE, taken from the DyadicBA Group, Pair 6B (high ability), Week 1 Day 2)

- 3 P6B256 : One beautiful day Honest Omar and Timid Tassim was going to Tutong river. They was many people
- 4 P6B253 : They was many people are fishing, are fishing (.) at Tutong river.

5 P6B256 : at Tutong river. They was many people are fishing at Tutong river.

Excerpt 50 (LRE, taken from the DyadicBA Group, Pair 5D (average ability), Week 6 Day 2)

19 P5D213 : Last Sunday Timid Tassim and Honest Omar was fishing.

20 P5D208 : went fishing.

21 P5D213 : and Honest Omar went fishing.

5. *Limited, short direct response to show acknowledgement*

a) A learner acknowledges the partner's contribution with a short response (e.g., "Ok" or "Yes"), but provides no further elaboration to the exchange.

b) A learner makes an outright rejection (e.g., "I don't think so") and does not provide any explanation.

Excerpt 51 (CRE, taken from the DyadicEA Group, Pair 3B (high ability), Week 5 Day 1)

7 P3B179 : Timid Tassim was very excited because they have to do an experiment.
Do you agree?

8 P3B185 : How about, Timid Tassim very excited with his project because his project, eh, his plant becomes (.) becomes

9 P3B179 : *Alum lagi*. <Not yet.>

Excerpt 52 (LRE, taken from the DyadicBA Group, Pair 6A (high ability), Week 1 Day 1)

9 P6A234 : Wow, I don't believe it. I don't believe you.

10 P6A235 : *Luruskah eja* believe? <Is the spelling of 'believe' correct?>

11 P6A234 : Mm.

6. *Limited, acknowledgement not verbalized*

a) A learner accepts the partner's contribution, but does not provide any verbal response. Instead, he or she merely continues with the next part of the story or discussion. Here, it only becomes clear that the partner's contribution has been accepted when it appears as part of the written text in subsequent learner production. As seen in Excerpt 54, although the learner has not made any explicit acknowledgment of his partner's corrective feedback, their joint written work showed that the correct form (*friends*) has been accepted.

- b) A learner rejects the partner's contribution by not responding to it. Again, this is only apparent when learner talk is compared with the written text which the dyad has co-authored. In this case, the narrative text contains a response written by the learner that is related to, but not in agreement with, the partner's earlier verbal contribution.

Excerpt 53 (CRE, taken from the DyadicBA Group, Pair 2D (average ability), Week 8 Day 2)

- 27 P2D160 : And Moody Mimi (.) s-saw a trea-sure ches- chest.
 28 P2D156 : He said, (.) she said, (.) oh my god, I will be rich. And Timid Tassim said, can you give me something. No, I won't give you. Okay, I will give you. I will give you a (.) a gold.
 29 P2D160 : In the treasure chest, (1) have a (2) gold [coin

The joint written version: Moody mimi saw a treasure chest. "I will be rich" said moody mimi "Moddy mimi can you give me something" said Timid Tassim. In the treasure chest have a coin, gold, secret map, a key for a big house.

Excerpt 54 (LRE, taken from the DyadicBA Group, Pair 4A (high ability), Week 8 Day 2)

- 27 P4A86 : Oh, tomorrow. Tomorrow Timid Tassim and his friend
 28 P4A88 : Wait, not a friend, friends, and his friends, because there are many people. Okay, and his friends.
 29 P4A86 : to goes picnic, eh, goes picnic.

The joint written version: Tomorrow Timid Tassim and his friends are going to a picnic in the beach.

7. *Discussion discontinued*

This occurs when a learner ignores or does not follow through a contribution put forward by the partner, as seen in Excerpts 41 and 42. Unlike *Limited, acknowledgement not verbalized*, not only does the partner's contribution not appear in the written output, but the narrative text also does not contain information relevant to the discussion.

(vi) Episodes involving the use of the first language (L1)

In this category, the CREs and LREs are coded for whether the L1 is used. L1 here refers to the Malay language. As shown in all the transcripts in this study, Malay was the common language used in all the participating classes when learners communicated with their classmates and task

partners. It should be noted that only CREs and LREs are examined here, and therefore, the use of the L1 for socio-affective functions (e.g., to maintain a supportive and amicable discourse) or task implementation functions (e.g., to discuss task instructions) is not examined. Here, the CREs and LREs are coded for learners' use of the L1 to see whether the provision of different degrees of linguistic assistance influences which language participants utilize more of (Malay or English) during discussion, and whether the extent to which the L1 has been used during peer interaction influences their subsequent individual written performance.

1. *Use of the L1:* Learners mainly use the L1 when they engage in idea generation or content clarification, or in negotiation of meaning or linguistic forms.

Excerpt 57 (CRE, taken from the DyadicBA Group, Pair 5B (high ability), Week 3 Day 2)

- 46 P5B203 : Okay, she followed the loud noise
 47 P5B204 : She heard
 48 P5B203 : No, followed.
 49 P5B204 : She heard
 50 P5B203 : followed.
 51 P5B204 : She heard
 52 P5B203 : *Eh, ia ikutkan ia punya atu.* <she followed it.>
 53 P5B204 : *Ia dangar jua dulu.* <She heard it first.>
 54 P5B203 : *Eh, au ah.* <Oh, yes.> She heard (.) heard H-E-A-R-E-D=
 55 P5B204 : =a loud sound.
 56 P5B203 : a loud sound.

Excerpt 58 (LRE, taken from the DyadicBA Group, Pair 5B (high ability), Week 6 Day 2)

- 61 P5B204 : Ten minute, *ada* –S? <is there –S?>
 62 P5B203 : *Kalau one nada* –S, *kalau ten ada* –S. Ten minutes later <If one, there's no –S, if ten, there's –S.>
 63 P5B204 : Ten minutes

2. *No use of the L1:* Learners do not use the L1 when expressing their opinions, intentions or linguistic knowledge.

Excerpt 59 (CRE, taken from the DyadicBA Group, Pair 5B (high ability), Week 6 Day 1)

- 97 P5B204 : I think the Honest Omar and Timid Tassim have what he want. And the lamp (.) he throw back to the river.

- 98 P5B203 : I don't think that he (.) he's going to throw the lamp at the river. I think Timid Tassim and Honest Omar decided to make the wishes and he want (.) they want to set the genie free. Because at (.) the story of Aladdin
- 99 P5B204 : the story of Aladdin ((laughs))
- 100 P5B203 : he free:.. The end.

Excerpt 60 (LRE, taken from the DyadicBA Group, Pair 5B (high ability), Week 4 Day 1)

- 26 P5B203 : And when the plant die, Timid Tassim is finally free.
- 27 P5B204 : Is?
- 28 P5B203 : Huh?
- 29 P5B204 : You said, Timid Tassim is finally free? Is?
- 30 P5B203 : was
- 31 P5B204 : Ah. Very good.
- 32 P5B203 : Was finally free. Timid Tassim was finally free.

(vii) Peer consulting linguistic assistance during exchange

All CREs and LREs are coded in this category for whether learners explicitly consult the written linguistic assistance provided to them during task. In the present study, the DyadicEA Group received enhanced linguistic assistance (i.e., paragraphs of text), while the DyadicBA Group received basic linguistic assistance (i.e., lists of words). Of interest here is whether the provision of different degrees of linguistic assistance influences the way in which learners refer to the written support during discussion, and whether overt consultation of the linguistic assistance affects subsequent individual writing.

1. *Explicit reference to linguistic assistance*: Learners indicate that they are referring to the linguistic assistance when they are making a content-related or linguistic decision.

Excerpt 61 (CRE, taken from the DyadicBA Group, Pair 3C (average ability), Week 7 Day 1)

- 24 P3C195 : Before he went to the river, *sediakan, apa?* <what did he prepare?>
- 25 P3C192 : ((P refers to her learning log.)) *Ada ni*, take a towel. <There's this, take a towel.>
- 26 P3C195 : Before he went to the river, he take (.) he go home and take his towel, clothes, plastic and bag. And then he go to the river. After he arrived to the river, he jumped (.) to the river.

Excerpt 62 (LRE, taken from the DyadicBA Group, Pair 5C (average ability), Week 7 Day 1)

- 34 P5C215 : *Macam mana eja cake?* <How do you spell 'cake'?>
35 P5C214 : *Sekajap.* <A moment.> Learning log. C-A-K-E

2. *No reference to linguistic assistance:* Learners do not mention the use of linguistic assistance during discussion.

Excerpt 63 (CRE, taken from the DyadicBA Group, Pair 4A (high ability), Week 4 Day 1)

- 19 P4A86 : The brothers, eh, Lucky Lucas brother want to kill the crocodile or not?
20 P4A88 : I don't know, your choice.
21 P4A86 : I think like that.
22 P4A88 : I think, you want what? Eh, you want to kill, do Lucky Lucas's brother want to kill it or don't kill it?
23 P4A86 : I don't know.
24 P4A88 : Okay, so they don't kill it. So they don't kill it, they sold it to the zoo. Okay, I think that's all.

Excerpt 64 (LRE, taken from the DyadicBA Group, Pair 5A (high ability), Week 3 Day 2)

- 46 P5A212 : What's the name?
47 P5A211 : What's her name?
48 P5A212 : What's his name?
49 P5A211 : Its name
50 P5A212 : His name

(viii) Types of resolution

This final category not only addresses whether the CREs or LREs are resolved between the learners in dyads, but it also examines whether these resolutions are appropriate or inappropriate, in terms of the target language. In other words, what is of interest here is not only the way in which participants negotiate in collaborative dialogue, but also the outcome of these discussions.

1. *Appropriately solved:* Learners achieve a targetlike resolution.

Excerpt 65 (CRE, taken from the DyadicEA Group, Pair 3D (average ability), Week 3 Day 2)

- 35 P3D184 : ((P writes the story.)) *Durang balik macam mana, macam mana durang balik?* <How were they getting back?>
36 P3D187 : By car *lah*.
37 P3D184 : *Siapa* driving? <Who was driving?>

- 38 P3D187 : *Bapanya lah.* <His father.>
 39 P3D184 : *Ada bapanya kan?* <Was the father there?>
 40 P3D187 : Eh, *macam ani lah*, call taxi. <like this, call taxi.>
 41 P3D184 : *Mana ada talipon di sini.* <There was no phone here.>
 42 P3D187 : *Ada wah. Dalam beg atu.* <There was. In the bag.>
 43 P3D184 : *Dalam beg? Ada durang membawa duitkan?* <In the bag? Did they have money?>
 44 P3D187 : Gold coin *atu?* <Those gold coin?>
 45 P3D184 : *Au wah. Banyak jua coins atu ah.* <Oh yes. There are a lot of coins.>
 Okay. They all went home by taxi. They used the gold coins to pay.
 46 P3D187 : Okay.

Excerpt 66 (LRE, taken from the DyadicEA Group, Pair 3A (high ability), Week 6 Day 2)

- 6 P3A191 : One Saturday afternoon (.) one Saturday afternoon [Timid Tassim and Honest Omar was
 7 P3A193 : [Timid Tassim and Honest Omar were
 8 P3A191 : was *kah?* <is it 'was'?>
 9 P3A193 : were
 10 P3A191 : *kitani ubah tadi?* <We changed it just now?>
 11 P3A193 : were
 12 P3A191 : Timid Tassim and Honest Omar were playing football.

Note: [shows the point at which a current talk is overlapped by another speaker's talk

2. *Inappropriately solved:* Learners achieve a non-targetlike resolution.

Excerpt 67 (CRE, taken from the DyadicBA Group, Pair 5E (low ability), Week 6 Day 2)

- 34 P5E205 : Timid Tassim and Honest Omar do, he (.) the *jinn* said *tiga permintaan.* <the genie said three wishes.> Three, *tiga permintaan, apa bahasa inggerisnya ah?* <three wishes, what is the English word for that?>
 35 P5E201 : Mm, to the borrow
 36 P5E205 : to the borrows to the *jinn* <genie>, Timid Tassim said, I want to be a soldier. And Honest Omar said, I want to be a pilot.

Excerpt 68 (LRE, taken from the DyadicBA Group, Pair 5C (average ability), Week 5 Day 2)

- 57 P5C214 : Ah, Honest Omar mother
 58 P5C215 : was, eh, were cooking
 59 P5C214 : cooked
 60 P5C215 : were cooked

3. *Unresolved and abandoned:* Learners leave a content-related or linguistic problem unresolved. Excerpt 69 shows a dyad discussing an addition to the conclusion of their story; however, they are unable to come up with a satisfactory idea, hence, they choose not to include this in their writing. Excerpt 70 too shows an example of a dyad abandoning their search for the English equivalent of *punya*, and instead, using another word (*bring*) to express their intention; the lexical problem remains unresolved.

Excerpt 69 (CRE, taken from the DyadicBA Group, Pair 2B (high ability), Week 2 Day 2)

- 3 P2B168 : At the end *tu bila?* <when is the end?> At the end the police came.
 4 P2B173 : *Ah iakah?* <really?>
 5 P2B168 : Finally, the police came (.) finally *inda jua bisai ah* <finally doesn't sound good>
 6 P2B173 : *Inda jua berapa ah.* <Not really>

Excerpt 70 (LRE, taken from the DyadicBA Group, Pair 4C (average ability), Week 1 Day 2)

- 27 P4C76 : The teacher have know (.) who is *punya cakap inggeris apa? Punya?* <what is the English word for 'belongs to'? 'Belongs to'?>
 28 P4C78 : have
 29 P4C76 : No, *punya wah.* <'belongs to'> Have *tah karang.* <It's not 'have'.> Who is
 30 P4C78 : who is haven't
 31 P4C76 : who is have?
 32 P4C78 : Eh, the teacher say to the children, eh=
 33 P4C76 : =who is
 34 P4C78 : who is, who is bring a cat?

4. *Unresolved, leading to a request for outside intervention:* Where dyads are unable to come to a solution, they seek outside intervention, i.e., help from the teacher or me. Sometimes, they may also refer to an English or a bilingual Malay-English dictionary. Here, learners are likely to obtain the correct solution to their problem.

Excerpt 71 (CRE taken from the DyadicBA Group, Pair 6B (high ability), Week 7 Day 1)

- 45 P6B253 : The two brother, eh, call, *apa* <what>, Lucky Lucas call the
 46 P6B256 : the police
 47 P6B253 : *Inda*, the fire *bomba*, eh. <No, the fire fighters, eh.>
 48 P6B256 : *Selalunya apakan datang, polis jua.* <Usually, it's the police who come.>

- 49 P6B253 : *Mana ada.* <No.>
 50 P6B256 : *Polis kali ah.* <It's the police.>
 51 P6B253 : *Bomba.* <Fire fighters.>
 52 P6B256 : *Polis.* <Police.>
 53 P6B253 : Teacher, *kalau ada binatang liar, bombakan yang datang?* <if there is a wild animal, it is the fire fighters who come, right?>
 54 T : Yes.
 55 P6B256 : *Polis* <Police>
 56 P6B253 : *Bukan polis kali ah.* <Not the police.>
 57 T : *Bomba dulu.* <Fire fighters first.>
 58 P6B256 : *Polis.* <Police.>
 59 P6B253 : *Polis apa jua kan dibuatnya?* <What can the police do?>
 60 P6B256 : *Kalau dalam kereta, kereta polis dulu yang awal.* <If it comes to cars, the police cars will arrive first.>
 61 T : You can call both, *dua-dua pun boleh panggil. Tapi yang datang, bomba dulu.* <you can call both. But the fire fighters will arrive first.> Alright?

Note: T = Teacher

Excerpt 72 (LRE taken from the DyadicBA Group, Pair 6B (high ability), Week 7 Day 1)

- 64 P6B253 : Teacher, *kalau bomba apa?* <what do you call 'fire fighters'?>
 65 T : Fire fighter? Fire fighter and rescue department.

Excerpt 73 (LRE taken from the DyadicBA Group, Pair 4C (average ability), Week 5 Day 1)

- 26 P4C76 : *Sakit, apa kan? Sakit, apa?* And she feel (3) *sakit, apa?* <What is 'sick'? 'Sick', what is it? And she feel (3) 'sick', what is it?>
 27 P4C78 : ((P refers to a dictionary.)) too weak
 28 P4C76 : And she feel too weak.

To assess the reliability of the coding, another coder and I independently coded ten per cent of the transcriptions. This is to say, of a total of 480 transcripts generated across eight weeks, 50 were selected at random for this purpose. The initial overall agreement was 70.96 per cent (with a consensus of 63.64 per cent on episodes related to story content and 75.60 per cent on episodes related to language features). Disagreements and discrepancies were discussed and resolved by reviewing the operational definitions of each category of interactional episodes. A second coding of another ten per cent of the transcriptions was undertaken by the same coders, and the overall reliability between the two coders this time was 91.69 per cent (with 90.70 per cent on episodes related to story content and 92.27 per cent on episodes related to language features).

Discrepancies were resolved by further negotiated consensus. The initial transcripts which had not been double-coded were then recoded based on the revised criteria.

3.8.2.4 Statistical analysis of the peer interaction

Research Question 4 addresses the frequency with which learners reflected on story content and language features during task performance, by analysing the interactional data using descriptive statistics. Here, the categories of *Focus of episodes* and *Types of resolution* were analysed, in order to uncover the content of discussion between partners as learners engaged in peer interaction. Means and standard deviations were calculated for both categories in relation to the production of CREs and LREs between the DyadicEA and DyadicBA Groups.

More importantly, the main concern of Research Question 4 is the influence of the nature of linguistic assistance on the numbers of various types of interactional episodes produced when learners in the DyadicEA and DyadicBA Groups engaged in collaborative narrative writing tasks. All subcategories of interactional episodes (Table 5, p. 140) were examined as measures of peer-mediated interaction, in order to capture how learners provided peer assistance to their task partners. To determine appropriate statistical procedures for analysing these data, a Kolmogorov-Smirnov test of normality and Levene's test of homogeneity of variance were first applied on all measures of peer interaction. For measures with data that met the assumptions of normality and homogeneity of variance, simple and multiple regression analyses were conducted to explain the relationship between the nature of linguistic assistance, or *Group* (treatment condition), and peer interaction. In addition, histograms, normal P-P plots and scatterplots of the residuals were constructed and used to verify the assumptions of normality and homoscedasticity. Regression analyses were selected because they allowed for *Group* (an *a priori* explanatory variable) and other independent variables related to *Group* to explain the variation in each of the outcome variables of peer mediation (Keith, 2006).

Bearing in mind that the central point of enquiry for Research Question 4 is whether the participants engaged in peer interaction to the same degree (in terms of the numbers of

interactional episodes produced) when they received varying amounts of linguistic assistance (i.e., different treatment conditions) during task performance, *Group* was therefore regarded an *a priori* explanatory variable in all regression models. A separate simple regression analysis, with *Group* as the only explanatory variable, was first conducted for each selected outcome measure of peer interaction that met the aforementioned assumptions. Each analysis was then repeated separately with other explanatory variables, notably *English Proficiency Level* and *Gender*, added to the model. Interaction terms for *English Proficiency Level* x *Group* and *Gender* x *Group* were also entered in the regression models as potential explanatory variables. For both simple and multiple regression analyses, only results with $p < .05$ were considered significant. Findings that were significant were calculated for effect sizes using Cohen's f^2 . According to Cohen (1988), this is the appropriate measure of effect size to use for ANOVA or multiple regression (with F-ratio). Cohen's f^2 for multiple regression is defined as: $(R^2/1 - R^2)$ (Cohen, 1988).

Where assumptions of normality or homogeneity of variance were not met, the Mann-Whitney and Kruskal-Wallis tests were employed to determine any statistical differences in the production of interactional episodes between learners in the DyadicEA and DyadicBA Groups who received different kinds of linguistic assistance. Unlike the regression method, the two nonparametric tests were unable to identify explanatory variables to explain the variation in an outcome variable. However, they were used to establish independent variables that significantly influenced the production of interactional episodes between the two groups of learners. In doing so, they provided evidence for Research Question 4 on whether the audio-recorded dyads engaged in peer interaction to the same degree (in terms of the numbers of interactional episodes produced) under different treatment conditions. The independent variables for the Mann-Whitney and Kruskal-Wallis tests included *Group*, *English Proficiency Level* and *Gender*. The outcome variables were the subcategories of interactional episodes. Whereas the Mann-Whitney test was used when an independent variable had two categories (e.g., *Gender*: Male/Female), the Kruskal-Wallis test was used when an independent variable had more than two categories (e.g., *English Proficiency*

Level: High/Average/Low). In the case of a Kruskal-Wallis test, *post hoc* pairwise comparisons using Mann-Whitney tests with a Bonferroni correction were conducted to demonstrate where the significant difference occurred. For both Mann-Whitney and Kruskal-Wallis tests, findings that were significant ($p < .05$), effect sizes for focused comparisons were calculated (Field, 2005).

3.8.3 Analysis of dyadic performance

The third part of the analysis brings together the foci on peer interaction and L2 written performance. Specifically, Research Question 5 seeks to determine whether the quantity of episodes of different interactional categories produced during dyadic collaboration mediated subsequent L2 written performance. Measures for peer interaction are the forty characteristics of interactional episodes. These episodes are drawn from the audio-recorded dialogues of thirty dyads from the DyadicEA ($N = 30$) and DyadicBA ($N = 30$) Groups, who received different degrees of linguistic assistance. Measures for L2 written performance are the four criteria for narrative writing outlined in the NSSCME writing scale, viz. *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar*. These are scores obtained by learners for each criterion on the narrative writing tests.

3.8.3.1 Statistical analysis of dyadic performance

To measure dyadic performance in L2 writing, individual writing scores obtained by learners for each of the four criteria on the narrative writing tests were aggregated to the dyad level. This means that scores achieved by individual members within each dyad were added together to give a composite writing score for each measure of L2 written performance. These were calculated for the narrative writing pretest and immediate posttest for each of the thirty dyads under study. Other than the summing of scores, coefficient of variation and standard deviation were also considered for composite scores. However, a lack of variability between the scores of individual learners in dyads yielded zero value for the calculation of standard deviation in numerous cases.

The calculation for coefficient of variation (which is calculated as: $\frac{\text{Standard deviation}}{\text{Mean}} \times 100\%$) also yielded a lack of variation. For this reason, it was decided that the aggregation of individual level scores to the dyad level was to be carried out by calculating the sum of the scores.

Given that the focus of the analysis was on whether different categories of peer interaction mediated subsequent written performance, it was important that individual learners in dyads were performing at approximately equal levels of writing achievement, in order for the influence of different types of peer interaction to be investigated. In other words, similarity, rather than difference, in writing attainment within dyads was a requisite for aggregating individual writing scores to represent dyadic performance. In order to examine if aggregation to the dyad level was justified, one-way ANOVA was conducted to determine if there was significant variability in individual writing scores between learners in dyads at pretest and immediate posttest (Moritz & Watson, 1998). Results show that there was no significant difference (Tables 86 and 87 in Appendix 24) for any of the four measures of writing performance at pretest and immediate posttest. This indicates that aggregation to the dyad level was justified. The two new variables, *composite pretest writing scores* and *composite posttest writing scores*, were entered in the subsequent regression models as a control variable and an outcome variable respectively.

Blockwise hierarchical multiple regression analyses were selected for Research Question 5 because, according to Keith (2006), this type of regression is most appropriate for explaining which variables are important influences, and the extent of the influence of each variable, on the outcome. In the present analysis, the two variables of interest were *Group* (treatment condition, i.e., the two levels of linguistic assistance), which was regarded as the main explanatory variable, and types of peer interaction (numbers of episodes of interactional categories), the mediating variable. The regression method was used specifically to test the hypothesis that the quantity of given categories of peer interaction mediates subsequent L2 written performance, or put another way, *Group* has an indirect effect on L2 written performance through different categories of peer interaction.

For each regression analysis, the explanatory variables of *composite pretest writing scores* and *Group* were entered together as a single block. They were entered into the model first, in order to control for the effects of prior attainment and treatment. This was followed by a category of interactional episodes, which comprised a set of relevant variables (Table 5, p. 140), entered in the regression model as the second block. *Activation of peer expertise*, for instance, was one of the eight categories of interactional episodes and the variables in this category entered as a single block in the model were *Requested assistance*, *Unrequested assistance* and *Mutual contribution*. The variables were entered in blocks, in order to decompose the variance in the composite posttest writing scores (the outcome variable). In this way, the change in the regression coefficient on *Group* when numbers of instances of different categories of peer interaction were added could be used to draw inferences about the relationship between dyadic performance and subsequent individual writing performance.

3.8.4 Interconnectedness of variables and analyses

Figure 5 illustrates the hypothesized influence of one variable on another and outlines how each analysis (presented in the form of research questions) undertaken in the current study explores the relationship(s) between these variables.

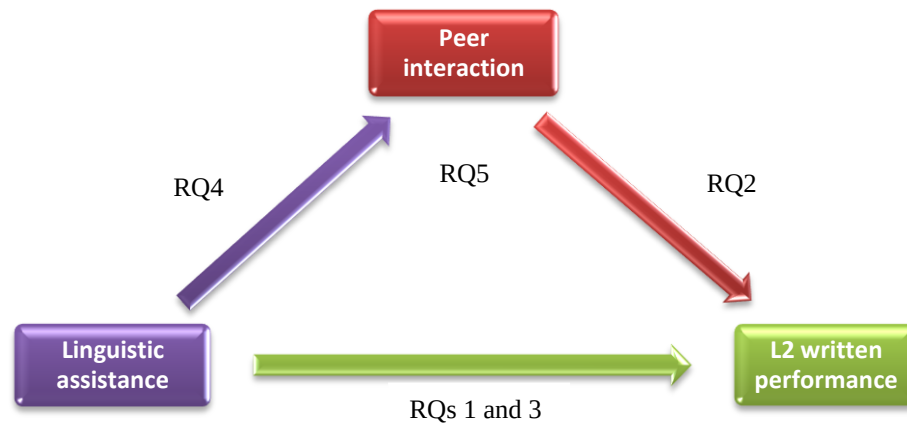


Figure 5. The hypothesized relationships between variables in the current research

With Research Question 1, the analysis of L2 written performance was conducted to examine if there was a direct relationship between the provision of linguistic assistance (treatment) and L2 written performance. However, there were two levels of linguistic assistance that were used in treatment. As a result, another analysis was set up (in the form of Research Question 3) to investigate whether there was a direct relationship between the different degrees of linguistic assistance and L2 written performance.

Analysis for Research Question 2 shifted the focus to peer mediation. This analysis was used to determine if there was a direct impact of peer interaction on L2 written performance. Here, the emphasis was on the product of peer interaction. At the same time, there was also a need to look at the process of peer mediation and to explore whether there was a direct relationship between the two levels of linguistic assistance that were used in treatment and peer interactions. For this, the analysis (presented as Research Question 4) narrowed down the data set to thirty pairs of audio-recorded dyads and examined their dialogues in the form of interactional episodes.

The final analysis, posed as Research Question 5, refined its focus on the potential influence of dyadic performance on learners' subsequent L2 writing. Here, the quantity of given categories of peer interaction and the two levels of linguistic assistance used in treatment were considered together to address the possibility of an indirect relationship between linguistic assistance and subsequent L2 written performance through different categories of peer interaction. To this end,

it examined the contribution of particular kinds of peer interaction in mediating various aspects of individual written performance.

Table 6 summarises the instruments employed in the study and methods of analysis applied in relation to Research Questions 1 to 5. The next chapter reports the results of the analysis for Research Questions 1, 2 and 3, while Chapter 5 presents the findings for Research Questions 4 and 5.

Table 6

Instruments and method of analysis employed in response to Research Questions 1 to 5

	Research questions	Instruments	Analysis
RQ1	Does the provision of linguistic assistance in narrative writing tasks influence the L2 written performance of Bruneian pupils in Year 5?	Narrative writing pretest, interim test, immediate posttest and delayed posttest	Partial correlation to compare individual writing performance between IndvBA and CG in terms of: - Quality of ideas (scored out of 15) - Story shape and structure (out of 15) - Implicit grammar (out of 15) - Vocabulary and spelling (out of 15)
		Grammar cloze pretest, interim test, immediate posttest and delayed posttest	Partial correlation to compare individual grammar performance between IndvBA and CG (scored out of 12)
RQ2	Does peer interaction in this population lead to better quality of L2 writing than does individual work?	Narrative writing pretest, interim test, immediate posttest and delayed posttest	Partial correlation to compare individual writing performance between DyadicBA and IndvBA in terms of: - Quality of ideas (scored out of 15) - Story shape and structure (out of 15) - Implicit grammar (out of 15) - Vocabulary and spelling (out of 15)
		Grammar cloze pretest, interim test, immediate posttest and delayed posttest	Partial correlation to compare individual grammar performance between DyadicBA and IndvBA (scored out of 12)
RQ3	Does the nature of linguistic assistance impact the quality of L2 writing?	Narrative writing pretest, interim test, immediate posttest and delayed posttest	Partial correlation to compare individual writing performance between DyadicEA and DyadicBA in terms of: - Quality of ideas (scored out of 15) - Story shape and structure (out of 15) - Implicit grammar (out of 15) - Vocabulary and spelling (out of 15)
		Grammar cloze pretest, interim test, immediate posttest and delayed posttest	Partial correlation to compare individual grammar performance between DyadicEA and DyadicBA (scored out of 12)

RQ4	For the audio-recorded group of children who work in pairs and receive linguistic assistance, do the numbers of interactional episodes differ between the DyadicEA and DyadicBA Groups?	Recordings of participant talk during task implementation	Simple and multiple linear regression analyses, Mann-Whitney test and Kruskal-Wallis test to examine the relationship between the nature of linguistic assistance and peer interaction amongst the recorded DyadicEA and DyadicBA dyads
RQ5	Does the quantity of episodes of different interactional categories produced during dyadic collaboration mediate subsequent L2 written performance?	- Narrative writing pretest, immediate posttest and delayed posttest - Recordings of participant talk during task implementation	Blockwise hierarchical multiple regression analyses to explain the relationship between linguistic assistance, types of peer interaction and L2 written performance
DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group LREs = language-related episodes; CREs = content-related episodes			

CHAPTER 4

L2 WRITTEN PERFORMANCE: FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the results and discussions of the quantitative analysis of participants' L2 written performance. The presentation of the findings is structured according to the first three research questions formulated in Chapter 3. For each of these research questions, the findings are divided into sections which are organized according to the four criteria used to rate the writings of learners in this study, i.e., *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar*.

Each section reports the analysis of the narrative writing test scores obtained by learners at various points of the intervention for each criterion in relation to the variable of *Group*, while holding constant the effects of prior attainment of learners at the outset of the study (i.e., pretest scores). This is followed by a section on the analysis of scores for grammar cloze tests (*Explicit grammar*). Learners' L2 narrative writing and grammar cloze test scores were analyzed using a partial correlation procedure. Descriptive statistics comprising means and standard deviations were also calculated for all narrative writing and grammar cloze test scores.

A final section concludes with a discussion based on the results of the analysis for each research question.

4.2 Linguistic assistance and L2 written performance

RQ1 Does the provision of linguistic assistance in narrative writing tasks influence the L2 written performance of Bruneian pupils in Year 5?

In order to examine the influence of linguistic assistance on young learners' L2 written performance, comparisons were made between learners in the Individual Basic Linguistic Assistance (IndvBA) Group, who worked individually and received basic linguistic assistance in

their narrative writing tasks, and learners in the Control Group, who performed the same tasks individually in the absence of linguistic assistance during the intervention. To investigate more fully aspects of children's performance in L2 writing, Research Question 1 was approached through the more specific subquestions of: (i) whether linguistic assistance leads to improved performance on particular aspects of L2 writing; and (ii) whether it leads to improved performance on L2 explicit grammar.

Subquestion (ii) was included in Research Question 1 because, in a separate analysis (Table 88 in Appendix 25), *Grammar cloze pretest* (Explicit grammar) was found to be a highly significant explanatory variable for L2 written performance at the outset of the study. This called for closer inspection of the influence of the two instructional conditions on learners' L2 explicit grammar performance. Explanations of the statistical procedure and the results of the analysis are provided in Appendix 25.

4.2.1 Quality of ideas

Descriptive statistics for *Quality of ideas* mean scores obtained from the pretest, interim test, immediate posttest and delayed posttest are presented in Table 7.

Table 7
Descriptive statistics for IndvBA and Control Groups' performance on Quality of ideas (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
IndvBA	67	5.18	1.56	5.22	1.58	5.76	1.61	5.67	1.62
CG	59	5.10	1.94	5.63	1.92	5.85	1.99	5.32	1.90

SD = Standard deviation

IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

To explore the statistical relationship, if any, between learners' *Quality of ideas* performance and treatment condition, while accounting for the effects of prior attainment, a partial correlation was performed. The variables of interest were *Group* (treatment condition) and scores obtained by learners at interim test, immediate posttest and delayed posttest, while the control variable was pretest scores. Table 8 displays the results.

Table 8

Partial correlation between Group and learners' performance on Quality of ideas (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	.15	.09
Immediate posttest	.05	.61
Delayed posttest	-.11	.24

The results of the partial correlation revealed that, while controlling for learners' prior attainment at pretest, there were no significant relationships between treatment condition and the *Quality of ideas* scores learners obtained at interim test ($r = .15$, $p = .09$), immediate posttest ($r = .05$, $p = .61$) and delayed posttest ($r = -.11$, $p = .24$). This indicates that learners' *Quality of ideas* performance and the treatment condition that they were assigned to were randomly related. The results do not provide support for the hypothesis that the provision of linguistic assistance in narrative writing tasks influences learners' *Quality of ideas* performance in L2 writing.

4.2.2 Story shape and structure

Table 9 displays the mean scores of learners' performance on *Story shape and structure* from pretest to delayed posttest.

Table 9

Descriptive statistics for IndvBA and Control Groups' performance on Story shape and structure (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
IndvBA	67	4.00	1.35	4.22	1.49	4.58	1.51	4.64	1.48
CG	59	4.41	1.84	4.39	1.93	4.59	2.08	4.29	1.64

SD = Standard deviation

IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

Table 10

Partial correlation between Group and learners' performance on Story shape and structure (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.05	.62
Immediate posttest	-.12	.17
Delayed posttest	-.23	.01**

**Significance level, $p < .01$

Table 10 summarizes the results of partial correlation analysis between *Group* and *Story shape and structure* performance, while accounting for the effects of prior attainment. There were no significant associations between the treatment condition and learner's *Story shape and structure* scores obtained at interim test ($r = -.05$, $p = .62$) and immediate posttest ($r = -.12$, $p = .17$). This indicates that learners' *Story shape and structure* performance during the eight-week intervention was not significantly related to the treatment that they received. However, there was a significant correlation between treatment and the *Story shape and structure* scores at delayed posttest ($r = -.23$, $p < .01$). This means that learners who were in the IndvBA Group (as denoted by the negative correlation) were significantly more likely to obtain higher scores than those in the Control Group at delayed posttest.

Based on the descriptive statistics in Table 9, it can be seen that it was at delayed posttest that the Control Group experienced a decline in the *Story shape and structure* mean score. The IndvBA Group, on the other hand, did not deteriorate in their *Story shape and structure* performance after immediate posttest. Given that the significant correlation occurred only at delayed posttest, the results suggest that the provision of linguistic assistance in narrative writing tasks may lead to more durable gains in terms of *Story shape and structure* than the condition where no linguistic assistance is provided.

4.2.3 Vocabulary and spelling

Table 11 displays the means and standard deviations for learners' performance on *Vocabulary and spelling* in the narrative writing pretest, interim test, immediate posttest and delayed posttest.

Table 11

Descriptive statistics for IndvBA and Control Groups' performance on Vocabulary and spelling (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
IndvBA	67	3.85	1.69	4.13	1.62	4.97	1.88	4.39	1.71
CG	59	4.24	1.63	4.56	1.92	4.66	1.80	4.17	1.51

SD = Standard deviation

IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

Table 12

Partial correlation between Group and learners' performance on Vocabulary and spelling (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	.06	.51
Immediate posttest	-.22	.01*
Delayed posttest	-.18	.04*

*Significance level, $p < .05$

Table 12 shows the partial correlation of *Group* (treatment condition) with *Vocabulary and spelling* performance, controlling for the effects of prior attainment. *Group* was significantly correlated with learner performance at immediate posttest ($r = -.22$, $p < .05$) and delayed posttest ($r = -.18$, $p < .05$). This indicates that the IndvBA Group, which received basic linguistic assistance, were significantly more likely to obtain higher *Vocabulary and spelling* scores than the Control Group, which did not receive any linguistic assistance. The results thus provide support for the hypothesis that the provision of linguistic assistance in narrative writing tasks facilitates learners' L2 writing in terms of *Vocabulary and spelling*.

4.2.4 Implicit grammar

Descriptive statistics for *Implicit grammar* are presented in Table 13.

Table 13

Descriptive statistics for IndvBA and Control Groups' performance on Implicit grammar (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
IndvBA	67	3.43	1.79	3.55	1.93	4.07	1.86	4.03	1.81
CG	59	3.49	1.84	3.56	1.99	4.00	1.89	3.86	1.94

SD = Standard deviation

IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

Table 14

Partial correlation between Group and learners' performance on Implicit grammar (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.01	.91
Immediate posttest	-.05	.59
Delayed posttest	-.07	.44

Learners' *Implicit grammar* performance was analysed using partial correlation at .05 level of significance and the results are presented in Table 14. Partialling out prior attainment, there were no significant associations between treatment and learners' *Implicit grammar* performance at interim test ($r = -.01$, $p = .91$), immediate posttest ($r = -.05$, $p = .59$) and delayed posttest ($r = -.07$, $p = .44$). This indicates that the level of progress made by the IndvBA and Control Groups at various points of the intervention was not affected by the treatment condition that they were in. The findings do not provide support for the hypothesis that the provision of linguistic assistance in narrative writing tasks influences learners' grammar performance in L2 writing.

4.2.5 Explicit grammar (Grammar cloze tests)

The results of learners' grammatical performance on the grammar cloze tests are presented in Table 15.

Table 15

Descriptive statistics for IndvBA and Control Groups' performance on Explicit grammar (scores out of 12)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
IndvBA	67	6.13	2.02	6.09	2.15	6.06	2.40	6.15	2.45
CG	59	5.08	2.38	5.56	2.19	6.14	2.30	6.41	2.12

SD = Standard deviation

IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

An analysis of partial correlation between treatment and learners' performance on *Explicit grammar* is presented in Table 16. Pretest scores were used as a control variable to account for any differences in prior attainment of learners at the outset of the study.

Table 16

Partial correlation between Group and learners' performance on Explicit grammar (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.01	.96
Immediate posttest	.20	.03*
Delayed posttest	.21	.02*

*Significance level, $p < .05$

There was a significant effect of *Group* (treatment condition) on the immediate posttest ($r = .20$, $p < .05$) and delayed posttest ($r = .21$, $p < .05$) after controlling for the effects of prior attainment.

It was revealed that the Control Group were significantly more likely to obtain higher *Explicit grammar* scores than the IndvBA Group. In other words, there was a tendency for learners in the Control Group to perform better in the use of verb tenses in the grammar cloze at immediate and delayed posttests than the IndvBA Group, despite the Control Group's not being provided the opportunity to engage with basic linguistic assistance in the narrative writing tasks during the intervention. The results do not provide support for the hypothesis that the provision of linguistic assistance promotes learners' L2 explicit grammar knowledge.

To summarise the results pertaining to Research Question 1, based on the partial correlation analyses of the four measures of writing, it appears that significant associations between learner performance and treatment condition were found only in *Story shape and structure* and *Vocabulary and spelling*. The IndvBA Group demonstrated significantly better performance on *Vocabulary and spelling* than the Control Group, and this progress was sustained four weeks after the intervention had ended. In addition, durable gains were observed for the IndvBA Group's performance on *Story shape and structure*. On grammar cloze tests, also based on partial correlation, it appears that linguistic assistance provided in narrative writing tasks does not enhance young learners' explicit grammar knowledge.

The next section looks at the influence of peer interaction on the performance of young learners in L2 narrative writing.

4.3 Peer interaction and L2 written performance

RQ2 Does peer interaction in this population lead to better quality of L2 writing than individual work?

Whereas Research Question 1 examined whether linguistic assistance helped young learners to enhance their L2 written performance, Research Question 2 investigated whether peer interaction facilitated the L2 written performance of young learners to a greater degree than individual work. The findings are presented as follows: (i) compared to individual work, does peer interaction lead to improved performance on particular aspects of L2 writing?; and (ii) does it lead to improved performance on L2 explicit grammar?

To address both parts of Research Question 2, comparisons were made between learners in the Dyadic Basic Linguistic Assistance (DyadicBA) Group, who were paired according to their L2 English proficiency levels, and learners in the Individual Basic Linguistic Assistance (IndvBA) Group, who performed the tasks individually. Both groups received identical basic linguistic assistance throughout the intervention.

4.3.1 Quality of ideas

Descriptive statistics for *Quality of ideas* are presented in Table 17.

Table 17

Descriptive statistics for DyadicBA and IndvBA Groups' performance on Quality of ideas (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicBA	61	4.03	1.87	4.48	1.66	5.10	1.52	5.18	1.93
IndvBA	67	5.18	1.56	5.22	1.58	5.76	1.60	5.67	1.62

SD = Standard deviation

DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group

Table 18

Partial correlation between Group and learners' performance on Quality of ideas (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	.01	.91
Immediate posttest	.04	.69
Delayed posttest	-.07	.45

Learners' *Quality of ideas* scores were analysed using partial correlation at .05 level of significance and the results are summarized in Table 18. With the effects of prior attainment removed, the analysis revealed that there were no significant associations between treatment and the *Quality of ideas* scores obtained at interim test ($r = .01$, $p = .91$), immediate posttest ($r = .04$, $p = .69$) and delayed posttest ($r = -.07$, $p = .45$). This indicates that the performance of learners in the the DyadicBA and IndvBA Groups was not related to the treatment they received. The results do not provide support for the hypothesis that peer interaction leads to improved *Quality of ideas* performance.

4.3.2 Story shape and structure

Descriptive statistics for *Story shape and structure* are presented in Table 19.

Table 19

Descriptive statistics for DyadicBA and IndvBA Groups' performance on Story shape and structure (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicBA	61	3.26	1.89	3.57	1.44	4.18	1.60	4.05	1.67
IndvBA	67	4.00	1.35	4.22	1.49	4.58	1.51	4.64	1.48

SD = Standard deviation

DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group

Table 20

Partial correlation between Group and learners' performance on Story shape and structure (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	.09	.31
Immediate posttest	-.01	.92
Delayed posttest	.04	.68

Table 20 summarizes the results of the partial correlation analysis. While controlling for prior attainment, no significant associations were observed between *Group* and learners' *Story shape and structure* performance at interim test ($r = .09$, $p = .31$), immediate posttest ($r = -.01$, $p = .92$) and delayed posttest ($r = .04$, $p = .68$). This indicates that the level of progress made by the DyadicBA and IndvBA Groups during the intervention was not related to the treatment condition they were assigned to. The results do not support the hypothesis that opportunities for peer interaction facilitates learners' *Story shape and structure* performance in L2 writing more than does individual work.

4.3.3 Vocabulary and spelling

Table 21 shows the descriptive analysis for learners' performance on *Vocabulary and spelling*.

Table 21

Descriptive statistics for DyadicBA and IndvBA Groups' performance on Vocabulary and spelling (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicBA	61	2.84	1.56	3.23	1.65	3.95	1.59	3.89	1.51
IndvBA	67	3.85	1.69	4.13	1.62	4.97	1.88	4.39	1.71

SD = Standard deviation

DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group

Table 22

Partial correlation between Group and learners' performance on Vocabulary and spelling (with control of prior attainment)

Correlated with	Group (treatment condition)	
	r	p -value
Interim test	.11	.24
Immediate posttest	.12	.19
Delayed posttest	-.05	.61

As seen in Table 22, the results of the partial correlation analysis revealed that, while controlling for the effects of prior attainment, there were no significant associations between *Group* and the *Vocabulary and spelling* scores obtained at interim test ($r = .11$, $p = .24$), immediate posttest ($r = .12$, $p = .19$) and delayed posttest ($r = -.05$, $p = .61$). In other words, learner performance was not significantly related to treatment at the .05 level. The results do not provide support for the

hypothesis that peer interaction leads to a more improved *Vocabulary and spelling* performance than does individual work.

4.3.4 Implicit grammar

Table 23 shows a comparison of means and standard deviations of scores on *Implicit grammar* obtained by learners in the DyadicBA and IndvBA Groups from pretest to delayed posttest.

Table 23

Descriptive statistics for DyadicBA and IndvBA Groups' performance on Implicit grammar (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicBA	61	2.49	1.80	2.64	1.67	3.08	1.83	2.97	1.68
IndvBA	67	3.43	1.79	3.55	1.93	4.07	1.86	4.03	1.81

SD = Standard deviation

DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group

Table 24

Partial correlation between Group and learners' performance on Implicit grammar (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	.11	.22
Immediate posttest	.12	.19
Delayed posttest	.17	.05

Table 24 displays results from the partial correlation analysis, with the effects of prior attainment removed. There were no significant associations between *Group* (treatment condition) and the *Implicit grammar* scores that the DyadicBA and IndvBA Groups obtained at interim test ($r = .11$, $p = .22$) and immediate posttest ($r = .12$, $p = .19$). At delayed posttest, however, the correlation approached significance, $r = .17$, $p = .052$; it should be noted that it was the non-peer-mediated IndvBA Group which was associated with a higher *Implicit grammar* attainment than the DyadicBA Group. The results thus do not provide support for the hypothesis that peer interaction plays a greater role in facilitating learners' *Implicit grammar* performance in L2 narrative writing than does working on a writing task individually.

4.3.5 Explicit grammar (Grammar cloze tests)

Descriptive statistics for the grammar cloze tests are presented in Table 25.

Table 25

Descriptive statistics for DyadicBA and IndvBA Groups' performance on Explicit grammar (scores out of 12)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicBA	61	3.21	2.73	4.61	2.40	5.90	2.22	4.85	2.31
IndvBA	67	6.13	2.02	6.09	2.15	6.06	2.40	6.15	2.45

SD = Standard deviation

DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group

Table 26

Partial correlation between Group and learners' performance on Explicit grammar (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.05	.56
Immediate posttest	-.28	.00**
Delayed posttest	.02	.86

**Significance level, $p < .01$

As shown in Table 26, a significant association between *Group* and learner performance at immediate posttest was detected in the partial correlation analysis, $r = -.28$, $p < .01$. The statistical test revealed that, while controlling for the effects of prior attainment, the DyadicBA Group was significantly more likely to achieve higher *Explicit grammar* scores than the IndvBA Groups. The results provide support for the hypothesis that offering learners the opportunity for peer interaction promotes their explicit grammar knowledge. However, there was no significant association between treatment and learner performance at delayed posttest ($r = .02$, $p = .86$). Put another way, there was no evidence of a delayed effect on *Explicit grammar* performance four weeks after the completion of the intervention.

To summarise the results pertaining to Research Question 2, no significant relationships were found between treatment and the L2 written performance of the DyadicBA and IndvBA Groups. In other words, there was no evidence to support the hypothesis that peer interaction leads to

better quality of L2 narrative writing than does individual work. On grammar cloze tests, however, it appears that peer interaction has a positive influence on learners' L2 explicit grammar performance.

The next section examines the influence of varying degrees of linguistic assistance on young learners' L2 writing and linguistic performance.

4.4 The nature of linguistic assistance and L2 written performance

RQ3 Does the nature of linguistic assistance impact the quality of L2 writing?

Research Question 3 looked at whether varying degrees of linguistic assistance influenced young learners' L2 written performance. To add clarity to the investigation, Research Question 3 was subcategorized to include the following questions: (i) does the nature of linguistic assistance influence learners' performance on particular aspects of L2 writing?; and (ii) does it influence learners' performance on L2 explicit grammar?

For Research Question 3, comparisons were made between learners in the Dyadic Enhanced Linguistic Assistance (DyadicEA) Group and learners in the Dyadic Basic Linguistic Assistance (DyadicBA) Group. Learners in both groups worked in dyads of similar L2 English proficiency levels. Results in this section are presented in the order of the four criteria used to rate L2 writing in the current study, i.e., *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar*. This is followed by a section on the analysis of scores for grammar cloze interim test, immediate posttest and delayed posttest (for *Explicit grammar*), while partialling out the effect of the pretest scores.

4.4.1 Quality of ideas

Descriptive statistics for *Quality of ideas* are presented in Table 27.

Table 27

Descriptive statistics for DyadicEA and DyadicBA Groups' performance on Quality of ideas (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicEA	70	4.54	1.49	5.54	2.01	6.29	1.87	5.73	1.93
DyadicBA	61	4.03	1.87	4.48	1.66	5.10	1.52	5.18	1.93

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Controlling for prior attainment, a partial correlation analysis was used to determine whether there was a statistically significant association between the treatment condition and the *Quality of ideas* performance of learners in the DyadicEA and DyadicBA Groups at .05 level, as depicted in Table 28.

Table 28

Partial correlation between Group and learners' performance on Quality of ideas (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.24	.01**
Immediate posttest	-.31	.00***
Delayed posttest	-.06	.54

Significance level, $p < .01$; *Significance level, $p < .001$

There were strong significant associations between *Group* and learners' *Quality of ideas* performance at interim test ($r = -.24$, $p < .01$) and immediate posttest ($r = -.31$, $p < .001$). What this indicates is that the DyadicEA Group, which received enhanced linguistic assistance during the intervention, was more likely to achieve higher *Quality of ideas* scores in L2 narrative writing than the DyadicBA Group, which received basic linguistic assistance. The results support the hypothesis that the provision of enhanced linguistic assistance in narrative writing tasks facilitates learners' L2 writing in terms of *Quality of ideas* more than does the provision of basic linguistic assistance. However, it should also be noted that no significant association was observed between treatment and learner performance at delayed posttest, $r = -.06$, $p = .54$. In other words, the difference in gains between the two groups was not sustained over time, and this suggests that the provision of enhanced linguistic assistance may not lead to durable gains.

4.4.2 Story shape and structure

Table 29 presents the means and standard deviations for the *Story shape and structure* scores.

Table 29

Descriptive statistics for DyadicEA and DyadicBA Groups' performance on Story shape and structure (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicEA	70	3.74	1.64	4.13	1.78	5.20	1.83	4.71	1.80
DyadicBA	61	3.26	1.89	3.57	1.44	4.18	1.60	4.05	1.67

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Table 30

Partial correlation between Group and learners' performance on Story shape and structure (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.10	.24
Immediate posttest	-.26	.00**
Delayed posttest	-.13	.13

**Significance level, $p < .01$

As seen in Table 30, the partial correlation analysis revealed a strong significant association between *Group* and learner performance at immediate posttest, $r = -.26$, $p < .01$. Learners in the DyadicEA Group were found to be significantly more likely to obtain better scores at *Story shape and structure* than those in the DyadicBA Group, even after the pretest scores were controlled. The results thus support the hypothesis that the provision of enhanced linguistic assistance in narrative writing tasks facilitates learners' L2 writing in terms of *Story shape and structure* more than does the provision of basic linguistic assistance. On delayed posttest, however, no significant association was found between the *Story shape and structure* scores and *Group* ($r = -.13$, $p = .13$), indicating that the provision of enhanced linguistic assistance may not lead to durable gains.

4.4.3 Vocabulary and spelling

Table 31 provides the descriptive analysis for learners' performance on *Vocabulary and spelling*.

Table 31

Descriptive statistics for DyadicEA and DyadicBA Groups' performance on Vocabulary and spelling (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicEA	70	3.59	1.58	4.29	1.80	4.81	1.51	4.53	1.67
DyadicBA	61	2.84	1.56	3.23	1.65	3.95	1.59	3.89	1.51

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Table 32

Partial correlation between Group and learners' performance on Vocabulary and spelling (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.20	.03*
Immediate posttest	-.17	.06
Delayed posttest	-.06	.51

*Significance level, $p < .05$

Table 32 summarizes the results of the partial correlation analysis. The statistical test found a statistically significant association between treatment and learner performance at interim test ($r = -.20$, $p < .05$), and it was the DyadicEA Group which was associated with higher *Vocabulary and spelling* scores than the DyadicBA Group. The results provide support for the hypothesis that the provision of enhanced linguistic assistance in narrative writing tasks facilitates learners' L2 writing in terms of *Vocabulary and spelling* more than does the provision of basic linguistic assistance. However, there were no significant associations between treatment and learner performance at immediate posttest ($r = -.17$, $p = .06$) and delayed posttest ($r = -.06$, $p = .51$). This suggests that the provision of enhanced linguistic assistance may not lead to durable gains in terms of *Vocabulary and spelling* in L2 writing.

4.4.4 Implicit grammar

Descriptive statistics for *Implicit grammar* are presented in Table 33.

Table 33

Descriptive statistics for DyadicEA and DyadicBA Groups' performance on Implicit grammar (scores out of 15)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicEA	70	3.16	1.91	3.69	2.33	4.46	1.90	4.21	2.06
DyadicBA	61	2.49	1.80	2.64	1.67	3.08	1.83	2.97	1.68

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Table 34

Partial correlation between Group and learners' performance on Implicit grammar (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	-.18	.04*
Immediate posttest	-.31	.00***
Delayed posttest	-.27	.00**

*Significance level, $p < .05$; **Significance level, $p < .01$; ***Significance level, $p < .001$

As shown in Table 34, there were significant associations between treatment and learners' performance on *Implicit grammar* at interim test ($r = -.18$, $p < .05$), immediate posttest ($r = -.31$, $p < .001$) and delayed posttest ($r = -.27$, $p < .01$). The DyadicEA Group was found to achieve higher *Implicit grammar* scores than the DyadicBA Group, while controlling for learners' prior attainment at pretest. The results thus provide support for the hypothesis that the provision of enhanced linguistic assistance in narrative writing tasks facilitates learners' L2 writing in terms of *Implicit grammar* more than does the provision of basic linguistic assistance. In addition, the significant relationship at delayed posttest indicates that the effect of the treatment condition was sustained by the DyadicEA Group even after the completion of the intervention.

4.4.5 Explicit grammar (Grammar cloze tests)

Table 35 shows a comparison of means and standard deviations of scores for the grammar cloze tests.

Table 35

Descriptive statistics for DyadicEA and DyadicBA Groups' performance on Explicit grammar (scores out of 12)

	N	Pretest		Interim test		Immediate posttest		Delayed posttest	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
DyadicEA	70	5.24	2.71	5.70	2.52	5.64	2.61	5.39	2.77
DyadicBA	61	3.21	2.73	4.61	2.40	5.90	2.22	4.85	2.31

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Table 36

Partial correlation between Group and learners' performance on Explicit grammar (with control of prior attainment)

Correlated with	Group (treatment condition)	
	<i>r</i>	<i>p</i> -value
Interim test	.04	.70
Immediate posttest	.34	.00***
Delayed posttest	.12	.17

***Significance level, $p < .001$

As presented in Table 36, there was a strong significant association between *Group* and learner performance at immediate posttest after controlling for the effect of the pretest scores, $r = .34$, $p < .001$. The analysis revealed that it was the DyadicBA Group which demonstrated a higher level of explicit grammar knowledge than the DyadicEA Group. There was a tendency for learners in the DyadicEA Group to be less accurate in the use of verb tenses in the Grammar cloze immediate posttest despite being provided the opportunity to engage with enhanced linguistic assistance in the narrative writing tasks during the intervention. The results do not provide support for the hypothesis that the provision of enhanced linguistic assistance promotes learners' L2 explicit grammar knowledge.

To summarise the results pertaining to Research Question 3, partial correlation, controlling for the effects of prior attainment, revealed that *Quality of ideas, Story shape and structure*,

Vocabulary and spelling and *Implicit grammar* correlated significantly with *Group* (treatment condition). For all four measures of writing, DyadicEA Group were significantly more likely to perform better than the DyadicBA Group. However, as verified by the partial correlation analyses at delayed posttest, it was only for *Implicit grammar* that the effect of enhanced linguistic assistance was sustained after the completion of the intervention. On grammar cloze tests, however, it was the DyadicBA Group which was associated with higher scores than the DyadicEA Group in terms of L2 explicit grammar knowledge.

The following section presents the discussion for the findings obtained in relation to each research question.

4.5 Discussion

The discussion is organised around the first three research questions set out in the present study.

RQ1 Does the provision of linguistic assistance in narrative writing tasks influence the L2 written performance of Bruneian pupils in Year 5?

The first research question considered the influence of linguistic assistance on the L2 written performance of the Year 5 Bruneian pupils under study. With the effects of prior attainment removed, partial correlation analyses revealed that the IndvBA Group was associated with higher *Story shape and structure* and *Vocabulary and spelling* scores than the Control Group.

When considering the difference in the development of vocabulary and spelling between the IndvBA and Control Groups, it is perhaps not surprising that the treatment group showed a higher level of attainment, given that this group had the opportunity to engage with an extensive amount of linguistic assistance throughout the intervention. Words were intentionally selected by these learners from the basic linguistic assistance in the narrative writing tasks and were incorporated in their preliminary (oral) and presentational (written) output during picture narration. Hulstijn and Laufer's (2001, p. 552) Involvement Load Hypothesis proposes that "words that are processed with higher involvement load will be retained better than words that

are processed with lower involvement load”. In their experimental study that involved 186 learners of English as a foreign language in the Netherlands and Israel, they found that writing a composition that included target words was one such task that resulted in long-term retention. With this in mind, it would stand to reason that the vocabulary of learners in the IndvBA Group may have been enhanced by writing during the instructional treatment because they had received and chosen words specifically to assist with their L2 narrative discourse and they had the opportunity to use these words when expressing their intended meaning.

As for *Story shape and structure*, it is also possible to explain the statistically significant results of the IndvBA Group in terms of access to linguistic assistance. Basic linguistic assistance, through its provision of opportunities for learners to choose from a selection of words that are most appropriate to their needs, may assist learners in L2 written production in at least two ways:

- (i) It may reduce the linguistic demands of tasks. By having ready access to words relevant to their tasks, learners are free from having to engage in the effortful processing of retrieving lexis that is at the low-frequency or leading edge of their ability.
- (ii) It may reduce the processing demands on learners. By selecting and using words and phrases in their oral and written production, these learners were more likely to retain the self-selected lexis in their memory at a higher level of activation, rendering that lexis more easily accessible (Hulstijn & Laufer, 2001). In this way, learners may have automatised the retrieval and deployment of lexical and syntactic resources.

Easily accessible lexis makes less demand on working memory resources, leaving working memory capacity available for higher-order writing processes such as planning and reviewing (McCutchen, 1996, 2000; McCutchen, et al., 1994). In this respect, basic linguistic assistance offers the potential to lessen the attentional resources allocated for linguistic encoding at the linguistic formulation stage, and to allow more of the resources to be allocated to cognitive processing of the task. In the case of the IndvBA Group, who may have focused their cognitive effort on enhancing the quality of task outcome, the basic linguistic assistance may have afforded

the learners the opportunity to devote more of their attentional resources to organising the story structure and developing the story line. Although it could be argued that the sequence of pictures included in the task could serve the same function of facilitating the organization of a story structure, the fact that the Control Group, with access to the same picture sequences as the IndvBA Group but no linguistic assistance, did not attain the same level of performance on *Story shape and structure* as the IndvBA Group suggests that it was indeed the linguistic assistance that was the determining factor here.

Interestingly, contrary to the results of the present study, which found significant differences in learner text quality, intervention studies that have investigated the influence of lexical fluency on L2 writing have seldom found effects on global text quality, even though their findings have generally demonstrated facilitation of word production in writing. For instance, Van Gelderen, Oostdam and Schooten (2011) conducted an experimental study with 107 Grade 10 and Grade 11 Dutch L1 learners of English as a foreign language from three schools in the Netherlands to examine the effects of increasing lexical fluency on L2 writing. Lexical fluency training comprised learners encountering each of the 119 (familiar) English target words and word combinations six times in different production exercises. The researchers found that the group which received training in writing (i.e., the production of expository, reflective and argumentative texts) and lexical fluency was able to retrieve the target words faster (as measured by the reaction times and accuracy of responses in a 45-item translation task) and to use those words more frequently in the posttest writing tasks (as measured by a frequency count of the correctly used and accurately spelled target words in writing) than the group which received the same training in writing but without lexical fluency (in place of lexical fluency training, this group was given extra topic knowledge in their production exercises). The lexical fluency group was also more accurate in their morphological and orthographic production than the knowledge group. However, global ratings of text quality (which included criteria such as genre, content, structure, language) revealed no significant differences between the two treatment groups, even though they both outperformed the baseline control group, which received neither writing nor

fluency training. As the researchers were unable to detect effects of lexical fluency on global text quality, they ascribed the better performance of both the lexical fluency and knowledge groups (as compared to the control group) to training in writing texts in the selected genres.

In another classroom-based study, Snellings, van Gelderen and de Glooper (2004) randomly assigned four classes of Grade 9 Dutch L1 learners of English as a foreign language ($n = 103$) to one of two groups; each group received a similar speed-training treatment on the retrieval of a set of English words using computer assisted exercises such as error detection and translation. The set of words for each group, however, was different. As posttest, all participants were required to write two narrative texts, and the experiment was designed in such a way that each narrative task was likely to elicit the trained words in one of the two sets. Both groups demonstrated frequent use of target words and fluent retrieval of those words at the text level in the narrative writing tasks. The results also showed that even though both groups were expected to show improvement in their ability to express the essential content elements in the narratives (as measured by a count of important components of a story being included in the writing), a significant effect was found in only one of the groups. The researchers attributed the difference in progress made by the two groups to how closely related the trained words were to the respective narrative task, and to the level of difficulty in expressing the content of one of the narratives. Importantly, similarly to the previous study, no significant differences were found in terms of global text quality (which included criteria such as audience awareness, text organization, content, sensitivity to style).

What differs in the analysis of global text quality in Van Gelderen, Oostdam and Schooten (2011) and Snellings, van Gelderen and de Glooper (2004), on the one hand, and in the present study, on the other, is that the former have consolidated different measures of global text quality into a single overall writing score for statistical analyses. As a result, the analyses may not have been sensitive enough to capture the effect of enhancing lexical fluency on writing. In contrast, the present study has examined each measure of writing separately (i.e., *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling* and *Implicit grammar*), and this may have

increased the sensitivity of the statistical analysis in detecting significant differences in learners' L2 written performance.

It is interesting to note the difference in the rate of learners' progress in grammar in the narrative writing tests (a measure of learners' implicit grammar knowledge) and grammar cloze tests (a measure of learners' explicit knowledge of verb tenses) (Table 13 and Table 15). It can be seen from the comparison of mean scores in Table 13 that the IndvBA Group and the Control Group exhibited a similar upward trend in their performance in implicit grammar in the narrative writing tests from pretest to delayed posttest, with the IndvBA Group showing a statistically insignificant tendency to a higher level of performance than the Control Group. What is then striking here is the mismatch between this result and that obtained from the grammar cloze tests. In these tests, the IndvBA Group did not show much advancement in their explicit knowledge of verb tenses over the intervention. For the Control Group, however, there was a rise in performance level from pretest to delayed posttest. The mismatched results thus point out that despite being more beneficial for the IndvBA Group in terms of facilitating their implicit grammar knowledge, linguistic assistance was having no effect on promoting L2 explicit grammar knowledge. This could perhaps be attributed to the instructional context, in which linguistic assistance was provided to learners during the intervention, i.e., in a narrative writing task. Here, learner attention was directed not only to the selection of appropriate verb tenses, but also to, *inter alia*, the formation of sentences and use of connective devices. In other words, for this group of learners, it could be the nature of the narrative writing task itself, which did not necessarily focus learner attention on specific grammatical forms, that resulted in the absence of any marked improvement on explicit grammar knowledge. This observation reflects previous research, which has also shown that task types have differential effects on the quantity and quality of learner attention to language features. An example is a small-scale study conducted by Storch (1998) to compare the performance of nine adult ESL learners of different language backgrounds on four tasks: multiple choice, cloze, text reconstruction and short composition. The tasks were completed collaboratively, and peer interactions were analysed to examine the amount

and nature of attention that each task generated to linguistic forms. Of relevance to the present study is the finding that of the four tasks, composition elicited the least amount of attention on grammar, as learners tended to focus on generating and elaborating ideas. On linguistic choices, learners appeared equally concerned about grammatical (particularly verb tense and aspect choice) and lexical items (particularly word choice) during composition, whereas in the other more structured tasks, learners tended to devote more their discussion to grammatical items. This indicates that when learners engage in writing an L2 composition, their attention may be drawn to both content and language, and with less opportunity to consciously reflect upon language, their L2 explicit grammar knowledge development may be restricted during composition.

To conclude, findings based on Research Question 1 have demonstrated that providing linguistic assistance to young ESL learners has a significant influence on only some aspects of their L2 narrative writing, specifically *Story shape and structure* and *Vocabulary and spelling*. The following section examines the effect of peer interaction on young learners' L2 writing and linguistic performance.

RQ2 Does peer interaction in this population lead to better quality of L2 writing than individual work?

The second research question asked whether dyadic interaction had a positive impact on the L2 written performance of young learners. Viewed through the lens of sociocultural theory of mind, this question essentially examined the possibility of a transition from other-regulation to self-regulation through the appropriation of peer assistance. From a cognitive perspective, it looked at whether peer interaction which afforded individual learners opportunities for feedback and attention to linguistic forms (via processes such as noticing and hypothesis testing) could lead to greater gains of L2 knowledge in L2 writing. While both the DyadicBA and IndvBA Groups were provided with basic linguistic assistance in their narrative writing tasks, only the DyadicBA Group allowed opportunities for peer mediation to occur within dyads. Based on the results from the study, however, there was no evidence to support the hypothesis that peer interaction with

basic linguistic assistance could lead to more significant progress in young learners' L2 writing than individual work. Contrary to expectations, the Dyadic Group did not exhibit greater significant gains from pretest to delayed posttest than the IndvBA Group in any of the four measures of writing.

This unexpected finding is in stark contradiction with numerous interaction studies which have found a positive effect for learner interaction. Keck et al. (2006), for instance, in their meta-analysis of fourteen studies that involved adolescent or adult participants, reported that native-speaker to non-native speaker interaction facilitates the acquisition of lexis and grammar of the target language. A number of studies that investigated non-native-speaker to non-native speaker interaction have also found that interaction promotes L2 learning (e.g., Adams, 2007; Fernandez Garcia, 2007; Kowal & Swain, 1994; Mackey, 1999; Ohta, 2000). These studies, however, investigated L2 learners who received assistance from more proficient L2 interlocutors. These more proficient interlocutors, as seen in the qualitative and quantitative analyses of the aforementioned studies, had the linguistic resources to help the novices to eventually accomplish the task independently. Even studies that examined young learners working in pairs on collaborative writing tasks (e.g., Daiute & Dalton, 1993; Larkin, 2009; Paquette, 2009; Saddler & Graham, 2005; Yarrow & Topping, 2001) have tended to focus on L1 children working in expert-novice dyads. Thus, it is uncertain what the results would have been in terms of acquisitional benefits had the present research utilized more and less proficient interlocutors in the dyadic interaction. As it stands, the young learners involved in this study were of approximately equal levels of (lower) English proficiency, and there were considerably fewer apparently proficient interlocutors in the sample.

As both the DyadicBA and IndvBA Groups were offered the same basic linguistic assistance when they performed the narrative writing tasks during the intervention, it is thus not surprising that the two groups of learners did not differ significantly in their performance on *Vocabulary and spelling*. Nor were there significant group differences in *Quality of ideas*, *Story shape and structure* and *Implicit grammar*. This finding contradicts the mixed results of previous studies

which have compared individual and dyadic performance in L2 writing. Even though most of these studies have found that written production completed collaboratively was more elaborated, results have been less conclusive when it comes to pinpointing which aspects of writing have improved as a result of peer interaction. Storch (2005), for instance, in her study involving 23 adult ESL learners of diverse language backgrounds (such as Japanese, Chinese, Indonesian and Thai), reported that dyadic collaboration resulted in learners producing shorter texts, but these texts were grammatically more accurate and syntactically more complex than those written by individual learners. However, the difference observed between dyadic and individual performance was not statistically significant, and Storch attributed the non-significant results to the small sample size and short length of texts produced by learners. In a larger scale study that involved 72 adult ESL learners from Asian language backgrounds, Storch and Wigglesworth (2007) found that the collaborative performance of dyads ($n = 48$) working on a report and an argumentative essay showed significantly greater accuracy, but not fluency and complexity, when compared to the performance of learners working individually ($n = 24$) on the same tasks. These findings were replicated in another study by Wigglesworth and Storch (2009) with regard to dyadic ($n = 48$) and individual ($n = 48$) performance on an argumentative essay by 96 adult ESL learners from Asian language backgrounds.

Fernández Dobao (2012b) compared the narrative writing performance of 111 English L1 learners of Spanish as a foreign language working in groups of four ($n = 60$), in dyads ($n = 30$) and individually ($n = 21$). She reasons that because groups generated significantly more discussions on language, and they were more successful at solving the linguistic problems than dyads, they were able to produce texts that were significantly more accurate than those written by dyads and individuals. Of particular relevance to the present study, no significant differences were found in terms of accuracy and complexity between the texts produced by dyads and those by individual learners. As for fluency, the texts written individually were significantly longer than those written by dyads. This could be due to the fact that all learners in Fernández Dobao's study were assigned the same amount of time to complete the task, and having to divide their

time between discussions and writing, dyads produced shorter texts than individual learners. This was different from the previous two studies by Storch and Wigglesworth (2007) and Wigglesworth and Storch (2009), where dyads were allowed more time to complete the writing task than individuals.

Shehadeh's (2011) investigation, on the other hand, which involved 38 female adult Arabic L1 learners of English as a foreign language, found that learners completing the writing tasks in pairs showed greater improvement in content, organisation and vocabulary, but not in grammar. The lack of consistency in the findings of these studies implies that giving learners the opportunity to interact with each other when performing a collaborative writing task does not guarantee gains in specific aspects of writing.

Importantly, in the present study, descriptive statistics revealed gains in mean scores in *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling* and *Implicit grammar* in the individual writing of learners in the DyadicBA and IndvBA Groups over time. Because these gains were demonstrated by both groups of learners, the higher performance can therefore be attributed to the provision of basic linguistic assistance rather than peer interaction. Seen in another way, the provision of opportunities for dyadic use of basic linguistic assistance does not contribute to greater significant gains in L2 writing. It is possible that the performance of learners in the DyadicBA Group were not significantly associated with greater gains over those in the IndvBA Group in the individual writing of the immediate and delayed posttests because any effects of peer interaction did not carry over to subsequent individual writing at posttest. This means that although peer interaction may have a positive effect on task performance, this effect may not necessarily lead to subsequent learning. This corresponds to Kuiken and Vedder's (2002) study, which compared the individual and dyadic performance of 34 adolescent Dutch learners of English. They found that learners who were provided with the opportunity to interact with each other when performing a task showed ample instances of noticing of the targeted form. However, this did not lead to significantly greater gains in their performance in the immediate posttest or delayed posttest. Similarly, Nassaji and Tian (2010) reported that even though the 26

adult ESL learners involved in their study showed greater accuracy in their work when completing the tasks collaboratively than when working individually, it did not lead to better performance in individual vocabulary knowledge. What these findings point to is that peer interaction alone, as an instructional condition, does not necessarily result in better subsequent individual performance, and in the case of the present study, even with peer interaction, DyadicBA Group was unable to outperform the IndvBA Group on any of the four measures of writing, as attested by the lack of statistically significant correlations between *Group* and learner performance. One possibility is that the nature of the interaction during collaborative writing may account for the lack of greater transfer of knowledge from peer-assisted to individual L2 writing performance. This will be discussed in greater detail under Research Question 4.

Another plausible explanation for the lack of a statistically significant effect of dyadic interaction on learner performance, in particular on *Quality of ideas* and *Story shape and structure*, is the inadequacy of basic linguistic assistance as a resource to help the DyadicBA Group to perform the writing tasks more successfully than the IndvBA Group. With both groups of learners receiving the same level of linguistic assistance, the DyadicBA Group, even with additional support from peer interaction, was unable to outperform the other group. Thus, it could be argued that, in terms of language support, peer assistance was only as helpful as the amount and quality of linguistic knowledge that was available between learners who were engaged in dyadic interaction. In the case of the learners in the DyadicBA Group, the provision of basic linguistic assistance may not have been sufficient for them to provide effective assistance to their partner during the tasks. Simply stated, there appears a limit to the usefulness of peer interaction when the resources for peer assistance are inadequate for learners. However, it should also be noted that the DyadicBA and IndvBA Groups were not equivalent at the onset of the study. The descriptive statistics revealed that the DyadicBA Group obtained lower mean scores on all four measures of L2 writing than the IndvBA Group at pretest. This implies that there were more lower-level learners in the DyadicBA Group than in the IndvBA Group. If this is the case, and the fact that the results were non-significant on all four writing measures in the posttests for the

DyadicBA Group, it is possible, then, that the provision of basic linguistic assistance may have been less effective for lower-level learners than for higher-level learners. As a result, these lower-level learners were unable to assist each other with the needed linguistic expertise, despite the availability of the written support, due to their lower level of L2 proficiency. In other words, there is a possibility that the results might have been different if the DyadicBA Group was at the same performance level as the IndvBA Group at the onset of the study.

Overall, in response to Research Question 2, the quantitative analysis could not demonstrate that opportunities for peer interaction led to better performance in subsequent individual L2 writing than did work performed individually. Yet, where *Explicit grammar* was concerned, the DyadicBA Group demonstrated marked improved performance over the IndvBA Group. On the face of it, these findings appear to suggest that peer interaction may facilitate the improvement of explicit, rather than implicit, grammar knowledge of young learners. Nonetheless, at this point, it would be premature to conclude that peer interaction is ineffective in assisting L2 writing. Further investigation into learner dialogue is warranted in order to examine not only the quality of interaction provided by the proficiency-matched dyads, but also the content of discussion. (This will be discussed in relation to Research Question 4.) Based on the results of the study thus far, it appears that the success of peer interaction was dependent on the nature of resources, both cognitive and linguistic, that learners had access to at the time of the collaborative composing sessions. If this is the case, the results suggest that peer interaction may not be a sufficient condition for promoting more advanced L2 writing. This is a significant point and it will be discussed further in the next section.

Up to this point, findings based on Research Questions 1 and 2 have shown that providing linguistic assistance (but not peer interaction) to young ESL learners does impact significantly on some aspects of their L2 narrative writing performance. Therefore, the following section examines the influence of varying degrees of linguistic assistance on young learners' L2 writing and linguistic performance.

RQ3 Does the nature of linguistic assistance impact the quality of L2 writing?

Research Question 3 sought to explore the mediating effects of the nature of linguistic assistance on children's collaborative writing. A comparison of the performance of the DyadicEA and DyadicBA Groups on the four measures of writing lends support to the hypothesis that the two degrees of linguistic assistance influence the quality of L2 writing differentially. Both groups consisted of proficiency-matched dyads. Partial correlation analyses, controlling for prior attainment, revealed that learners in the DyadicEA Group, with the provision of enhanced linguistic assistance as their treatment condition, were significantly more likely to obtain higher scores on *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar* than learners in the DyadicBA Group, who received basic linguistic assistance. However, the difference in the level of performance between the two groups in terms of *Quality of ideas*, *Story shape and structure* and *Vocabulary and spelling* was not sustained over time, which suggests that providing enhanced linguistic assistance to young ESL learners may not lead to durable gains for these three measures of writing. Only durable gains on *Implicit grammar* were observed for the DyadicEA Group's performance.

A comparison of the mean scores for *Quality of ideas* and *Story shape and structure* demonstrates gains from pretest to immediate posttest for both the DyadicBA and IndvBA Groups. This result provides some corroboration for the study of Daiute and Dalton (1993), which examined the processes of collaborative writing of fourteen L1 children (ages 7 to 9). They found that the young learners transferred knowledge about story elements and story structure to their partners as they composed stories together. In the present study, since both the DyadicEA and DyadicBA Groups were given opportunities for peer interaction during the intervention, it is tempting to attribute the higher performance of the DyadicEA Group in *Quality of ideas* and *Story shape and structure* to the enhanced linguistic assistance they received during the intervention. However, it should be noted that the correlations between treatment and the DyadicEA learners' scores for *Quality of ideas* at interim test ($r = .24$) and immediate posttest ($r = .31$), while statistically significant, were weak. Similarly, for *Story shape and structure*,

treatment was only weakly correlated to learner performance at immediate posttest, $r = .26$. Furthermore, the treatment did not appear to lead to durable gains for either measure of writing. Recall that the DyadicEA Group was provided with paragraphs of text from which they selected expressions or individual words, depending on what they considered useful for their picture narration. In other words, they were given linguistic help in the form not only of word choice, but also of syntactic structure. Thus, their better performance on *Quality of ideas* and *Story shape and structure* seems to corroborate to some degree the preceding discussion that the provision of linguistic assistance (and the opportunities to use it) not only facilitated learners in their narration, but also allowed them to devote more of their attention to higher-order composing processes such as idea generation and organisation of the story. However, while linguistic assistance has the effect of facilitating L2 production (as seen in findings for Research Question 1), it may also be that learners perceived lexical and syntactic encoding in the composing process as less effortful and their L2 production more accurate and appropriate than they did before the treatment. This may not correspond to the actual accuracy and appropriateness of the written production, but it may have lowered participants' monitoring of the output, enabling them to focus on the cognitive aspect of the task and devise sophisticated ideas for their story.

For *Vocabulary and spelling*, it was found that level of attainment was significantly and positively associated with being in the DyadicEA Group. However, this statistically significant correlation was observed only at interim test. It appears that the difference in gains between the two groups was not sustained over time. This is perhaps not surprising, given that both the DyadicEA and DyadicBA Groups were provided with linguistic help in written form which contained key words that were relevant to the narration task, and it is possible that learners in both groups were utilizing their selected words to the same effect to narrate their story. One interpretation of this result is that basic linguistic assistance may be sufficient in aiding learners' *Vocabulary and spelling* performance. Moreover, both groups of learners had opportunities to discuss their word choice as they used, and reflected on the use of, their selected words or expressions. However, this may not have had an important effect, as in a finding obtained in

relation to Research Question 1, the IndvBA Group, which received basic linguistic assistance in their narrative writing tasks, demonstrated significantly better *Vocabulary and spelling* performance over the Control Group, which received no linguistic assistance. Thus, it appears that the provision of lists of individual words or expressions in basic linguistic assistance is as beneficial to learners in facilitating their written vocabulary and spelling as the provision of paragraphs of text in enhanced linguistic assistance, whether they are working collaboratively or individually.

Importantly, the beneficial effect of the enhanced linguistic assistance is reflected in the positive link between *Implicit grammar* scores and DyadicEA Group membership over the course of twelve weeks in the present study. Given that learners in the DyadicEA Group were provided with paragraphs of text as their linguistic assistance (as opposed to words for the DyadicBA Group), it would seem reasonable to suggest that these learners had more linguistic resources to share between them (e.g., collocation of words, sentence opener, choice of tense, sentence structure). Thus, they may have been more able to provide assistance to each other. Previous research, whether framed within a cognitive or sociocultural perspective, has shown that some form of expertise is required in an interaction, be it from a teacher, a more competent peer or an artefact, in order for assisted performance and co-construction of knowledge to occur (e.g., Aljaafreh & Lantolf, 1994; Ohta, 2001; Swain & Lapkin, 1998). In the case of the present study, enhanced linguistic assistance appears to have provided artefacts to learners for further reflection and discussion.

Furthermore, the written support offered by enhanced linguistic assistance in the form of paragraphs of text may be particularly suited for the type of task selected for the learners in the present study, i.e., narrative writing. This is because narration, as opposed to performing a form-focused task, requires learners to deal with such multiple demands as word choice, sentence structure and writing style. To this end, structures that featured in enhanced linguistic assistance may have afforded dyads the linguistic resources they needed in order to attend to particular language features in their writing and to address other concerns as sentence construction and text

cohesion, when working in collaboration with a partner. Therefore, learners' engagement with peer-mediated enhanced linguistic assistance may have promoted their *Implicit grammar* performance in subsequent individual writing.

Learners' L2 developmental stage may offer another plausible explanation as to why enhanced linguistic assistance had a stronger impact on L2 narrative writing performance than did basic linguistic assistance in the present study. Both treatment conditions were based on two underlying assumptions: (i) providing additional linguistic support eases lexical retrieval and sentence building at the linguistic formulation stage, allowing learners to devote sufficient attentional resources to cognitive processing of the task content, or to other writing processes; and (ii) learners at this developmental stage need to be given this L2 support at an appropriate level in order for them to be able to effectively utilize the linguistic assistance during task. Given the significant relationships between the treatment that the DyadicEA Group received and the higher *Quality of ideas*, *Story shape and structure* and *Implicit grammar* scores they obtained at immediate posttest, it appears that the provision of enhanced linguistic assistance may be more constructive for learners at this developmental stage than that of basic linguistic assistance. This means that young learners may have been developmentally ready for effective reception and expression of L2 knowledge provided by the enhanced linguistic assistance to take place. For basic linguistic assistance, on the other hand, while the treatment may have facilitated lexical retrieval, it may not have lowered the linguistic demands of story construction adequately for the young learners in the group and, given their L2 developmental level, they may still have experienced difficulties in heeding other aspects of writing such as discourse structure and text cohesion. As a result, they were unable to fully utilise the written support which was provided to them in the form of isolated words, in their own production, or to retain the knowledge constructed during peer interaction.

In sum, to conclude Research Question 3, learner performance on all four measures of writing was significantly influenced by treatment condition. Enhanced linguistic assistance, coupled with peer interaction, helped to raise the performance level of the DyadicEA Group in *Quality of*

ideas, Story shape and structure, Vocabulary and spelling, and Implicit grammar more than did peer interaction using only basic linguistic assistance. It should be noted, however, that the treatment condition had only a transient effect on *Vocabulary and spelling*. On *Explicit grammar*, as measured by grammar cloze tests, a significant effect of treatment on learner performance was also observed, but it was the DyadicBA Group which demonstrated a higher level of accuracy in the use of English verb tenses.

4.6 Summary

Table 37 summarizes the results of the study, focusing on the relationship between the *Group* (treatment condition) and learners' L2 performance on *Quality of ideas, Story shape and Structure, Vocabulary and spelling, Implicit grammar* and *Explicit grammar*.

Table 37

Summary of partial correlation results

Research questions	Measures	Interim test	Immediate posttest	Delayed posttest
RQ1: Does the provision of linguistic assistance in narrative writing tasks influence the L2 written performance of Bruneian pupils in Year 5?	Quality of ideas	Not significant	Not significant	Not significant
	Story shape and structure	Not significant	Not significant	Significant, IndvBA > Control
	Vocabulary and spelling	Not significant	Significant, IndvBA > Control	Significant, IndvBA > Control
	Implicit grammar	Not significant	Not significant	Not significant
	Explicit grammar	Not significant	Significant, Control > IndvBA	Significant, Control > IndvBA
RQ2: Does peer interaction in this population lead to better quality of L2 writing than does individual work?	Quality of ideas	Not significant	Not significant	Not significant
	Story shape and structure	Not significant	Not significant	Not significant
	Vocabulary and spelling	Not significant	Not significant	Not significant
	Implicit grammar	Not significant	Not significant	Not significant
	Explicit grammar	Not significant	Significant, DyadicBA > IndvBA	Not significant
RQ3: Does the nature of linguistic assistance impact the quality of L2 writing?	Quality of ideas	Significant, DyadicEA > DyadicBA	Significant, DyadicEA > DyadicBA	Not significant
	Story shape and structure	Not significant	Significant, DyadicEA > DyadicBA	Not significant
	Vocabulary and spelling	Significant, DyadicEA > DyadicBA	Not significant	Not significant
	Implicit grammar	Significant, DyadicEA > DyadicBA	Significant, DyadicEA > DyadicBA	Significant, DyadicEA > DyadicBA
	Explicit grammar	Not significant	Significant, DyadicBA > DyadicEA	Not significant

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group; Control = Control Group

In conclusion, the key points that have been discussed based on the findings in this chapter are as follows:

- (i) The provision of basic linguistic assistance appears to have a sustainable positive influence on *Vocabulary and spelling* in L2 writing of young learners. This was reflected in the significant relationship between *Group* and the performance of the IndvBA in the

narrative writing immediate and delayed posttests. As for *Story shape and structure*, a significant relationship between treatment and learner performance was only evident on the delayed posttest. This suggests that the treatment led to durable gains in terms of helping learners with their organisational writing skill.

- (ii) The provision of basic linguistic assistance had no effect on the development of explicit grammar knowledge as measured by the grammar cloze tests.
- (iii) Opportunities for peer interaction do not appear to have an impact on the L2 written performance of young learners. The treatment had no significant effect on the DyadicBA Group's performance on *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling*, and *Implicit grammar* when compared to that of the IndvBA Group. These results suggest that peer interaction may not be a sufficient condition for promoting L2 writing if learners do not have adequate linguistic resources to support each other during task performance.
- (iv) There was a significant effect of treatment on the DyadicBA Group's performance on the grammar cloze tests. While this finding would suggest that opportunities for peer interaction has an effect on the development of young learners' explicit grammar knowledge, the fact that the DyadicBA Group also outperformed the peer-mediated DyadicEA Group on the grammar cloze immediate posttest warranted a closer inspection of learner dialogue that occurred during peer interaction. This will be discussed in greater detail in relation to Research Question 4.
- (v) The provision of enhanced linguistic assistance to young learners may have a positive, though not sustainable, influence on *Quality of ideas*, *Story shape and structure* and *Vocabulary and spelling*. This was reflected in the significant associations between *Group* and learner performance in the narrative writing interim test and immediate posttest. For *Implicit grammar*, the effect of the treatment appears both positive and sustainable as the significant relationships between *Group* and learner performance were detected in the narrative writing interim test, immediate posttest and delayed posttest. The results suggest that the provision of enhanced linguistic assistance as an additional

support to peer interaction appears to be facilitative of L2 written performance amongst young learners.

The next chapter reports the results of the analysis for Research Questions 4 and 5.

CHAPTER 5

PEER INTERACTION: FINDINGS AND DISCUSSION

5.1 Introduction

This chapter focuses on the analyses of mediated peer interaction. There are two main sections in this chapter. The first section, Section 5.2, replies to Research Question 4 by describing and comparing the numbers of peer interactions of different categories engaged in by 30 of the proficiency-matched dyads. These 30 dyads were purposively selected from all six participating schools to represent a range of language proficiency, as described in Chapter 3. In Chapter 4, findings pertaining to Research Question 2 revealed that the provision or absence of opportunities for peer interaction appears to have had no influence on subsequent individual L2 written performance in terms of *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling* or *Implicit grammar*; and findings pertaining to Research Question 3 showed significant associations between learner performance on *Quality of ideas*, *Story shape and structure* and *Implicit grammar* and treatment (i.e., peer-mediated groups – DyadicEA and DyadicBA – provided with different levels of linguistic assistance), but, other than that for *Implicit grammar*, the effects did not persist over time. These results warrant a closer examination of the categories of interaction in which these dyads engaged, to probe whether there are any differences between groups, or by proficiency level, in the extent to which dyads engaged in one kind of interaction or another. Using the dyad as the unit of analysis, episodes of interactions were coded in units called CREs (content-related episodes), which involved learner talk about story content, and LREs (language-related episodes), which addressed language features; both CREs and LREs were subcategorized, and taken together were also categorized with regard to other aspects of the interactions, based on the literature in the field and on categories that emerged from an initial qualitative analysis of the transcripts of the interactions. This categorization process is described and justified in detail in Chapter 3. On the basis of this categorization, each of the 30 dyads achieved a score for each category of episode: this score was the number of episodes in that

category produced by that dyad. The score for each category of interactional episode by group (DyadicEA or DyadicBA) and proficiency level are reported and compared in Section 5.2.

The second section of this Chapter, Section 5.3, takes the scores for each category of interactional episode and uses them in an analysis which examines written data drawn from the same 30 dyads matched for L2 proficiency. Whereas Section 5.2 looks at whether linguistic assistance (or other factors) has an effect on the numbers of given types of interactional episodes, Section 5.3 addresses the possibility of an indirect influence of linguistic assistance on L2 written performance via these categories. To do this, hierarchical multiple regression analysis was carried out, and the outcome variable was *Composite posttest writing scores*. (*Composite scores* refers to scores that are aggregated to the dyad level by summing the individual scores obtained by members within each dyad for each measure of L2 written performance; the rationale for using this calculation is discussed in Chapter 3, Section 3.8.3.1.) The outcome variable for all regression analyses for Research Question 5 is based on scores obtained at immediate posttest rather than at delayed posttest, because the purpose here is to establish whether there is a relationship between linguistic assistance, types of peer interaction and subsequent individual L2 written narratives. Given the recency of the participants' exposure to, and use of, the written linguistic support and opportunities for discussions when the immediate posttest was administered, the influence, if any, of the two components in the present study will be more appropriately reflected in the immediate posttest data. Two explanatory variables, *Group* (treatment condition) and *Composite pretest writing scores*, were entered in the first block of the regression analysis. (The *Composite posttest writing scores* and *Composite pretest writing scores* were entered and analysed separately for *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling* and *Implicit grammar*.) The same categories of peer interaction (Table 5, Chapter 3, p. 140) that were used in the previous analysis (for Research Question 4) were applied to this regression analysis. The score for each category was treated as a mediating variable, and it was entered in the second block. There might be an objection that, given that the number of instances of a given episode category will vary from dyad to dyad, this variable is not appropriately used in

a parametric analysis. However, the argument here is that it is precisely this variation in quantity that is being measured: the score for number of instances of a given category of interactional episode is quantifiable, and as such is justified as a quantitative measure. The regression procedure was set up to identify any unique contribution of the quantity of given categories of peer interaction in accounting for subsequent L2 written performance, after adjustment for *Group* (treatment condition) and *Composite pretest writing scores* (prior attainment).

Findings in Section 5.3 are presented in response to Research Question 5. They are reported in eight subsections, *Focus of episodes*, *Activation of peer expertise*, *Nature of peer assistance*, *Partner's response to expert's contribution*, *Quality of response (level of engagement)*, *Episodes involving the use of the first language*, *Peer consulting linguistic assistance during exchange* and *Types of resolution*. These are the eight characteristics of interactional episodes that were examined.

The final section of this chapter is a discussion of the findings of the analyses for both research questions.

5.2 Numbers of interactional episodes compared between groups

RQ4 For the audio-recorded group of children who work in pairs and receive linguistic assistance, do the numbers of interactional episodes differ between the Dyadic Enhanced Linguistic Assistance (DyadicEA) and Dyadic Basic Linguistic Assistance (DyadicBA) Groups?

Transcripts of proficiency-matched dyads, fifteen from the DyadicEA Group and fifteen from the DyadicBA Group, were analysed in terms of the content of learner interactions. Figure 6 shows the total numbers of CREs and LREs generated by the dyads over a period of eight weeks. Each week the learners worked on a story for two successive days. On Day 1 they focused on oral narration (preliminary output), while on Day 2, based on the same sequence of pictures, they jointly produced the written version of the story (presentational output). Appendices 26 (a-c) and

27 (a-c) show samples of co-constructed compositions from high, middle and low English proficiency learners in the DyadicEA and DyadicBA Groups.

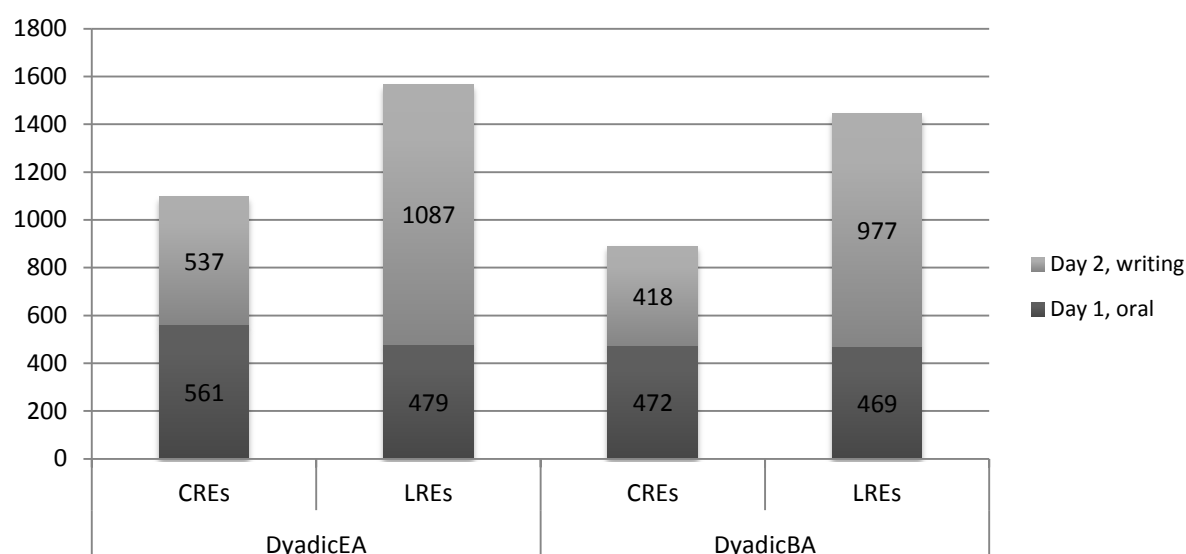


Figure 6. Total numbers of CREs and LREs in the two groups of 15 dyads each on Days 1 and 2 over eight weeks

Table 38 presents the descriptive statistics for the subtypes of CREs and LREs produced by the dyads over eight weeks.

Table 38

Nature of CREs and LREs produced over eight weeks in the two treatment groups

Focus of episodes	Subtype of LRE	DyadicEA (N = 15 dyads)		DyadicBA (N = 15 dyads)	
		Mean per dyad	SD	Mean per dyad	SD
CRE	Idea-based CRE	64.80	6.76	53.87	3.51
	Structure-based CRE	8.40	1.66	5.47	1.19
LRE	Lexical LRE	37.33	4.33	37.60	4.32
	Spelling LRE	13.33	2.31	12.67	2.35
	Sentence structure LRE	11.60	1.82	9.33	1.70
	Verb LRE	18.13	2.58	15.80	2.95
	Other LRE	24.00	3.66	21.00	3.41

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Table 39 summarizes the results of the collaborative dialogues of the same 30 dyads in terms of whether the CREs and LREs were appropriately or inappropriately resolved.

Table 39

Types of resolution produced over eight weeks in the two treatment groups

Types of resolution	DyadicEA (N = 15 dyads)		DyadicBA (N = 15 dyads)	
	Mean per dyad	SD	Mean per dyad	SD
Appropriately solved	133.93	15.82	110.27	12.46
Inappropriately solved	31.60	4.19	35.00	4.65
Unresolved and abandoned	8.20	1.18	8.53	1.02
Unresolved, leading to a request for outside intervention	3.87	.69	1.93	.62

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

Importantly, this section investigates whether the numbers of interactional episodes generated over a period of eight weeks differed between the two groups of learners, given that each group received a different degree of linguistic assistance. To do this, different statistical tests were employed, depending on whether the data met the assumptions of normality and homogeneity of variance. For outcomes that met the assumptions, simple and multiple regression were applied to explain the influence of the *Group* (treatment condition) or other independent variables related to *Group* on the characteristics of interactional episodes. Multiple regression also allowed the use of covariates. For outcomes that did not meet the assumptions, Mann-Whitney and Kruskal-Wallis tests were used. These are non-parametric tests that are based on the rank ordering of variables. The Mann-Whitney test was applied to test for differences in numbers of interactional episodes between the groups, and the Kruskal-Wallis test was applied to test for differences between the three levels of English proficiency.

Tests of differences were applied separately to the forty subcategories of interactional episodes determined by the recurring characteristics that emerged from the interactional data, as outlined in Table 40.

Table 40

Types of interactional episodes and the statistical tests used to analyse them

Category of interactional episodes	Subcategories subjected to non-parametric Mann-Whitney and Kruskal-Wallis tests	Subcategories subjected to parametric simple and multiple regression
(i) Focus of episodes (subtypes of CREs and LREs)	1. Idea-based CRE 2. Connectives LRE 3. Punctuation LRE	18. Structure-based CRE 19. Lexical LRE 20. Spelling LRE 21. Sentence structure LRE 22. Verb tenses and form LRE 23. Other form-based LRE
(ii) Activation of peer expertise	4. Mutual contribution	24. Requested assistance 25. Unrequested assistance
(iii) Nature of peer assistance (acting expert's contribution)	5. Providing approval 6. Indicating that something needs alteration, but not giving further help 7. Asking question to raise partner's awareness 8. Prompting 9. Explaining/clarifying 10. Indicating that something needs improvement or alteration, and working together to obtain solution	26. Proposing alternatives 27. Telling/directing/instructing 28. Correcting 29. Asking question to raise own awareness, understanding or knowledge of partner's meaning (reflection)
(iv) Partner's response to expert's contribution		30. Accepted 31. Rejected 32. Discussion discontinued
(v) Quality of response (level of engagement)	11. Elaborate, with justification 12. Limited, short direct response to show acknowledgement	33. Elaborate, with suggestion 34. Elaborate, rephrasing 35. Limited, repeating 36. Limited, acknowledgement not verbalized 37. Discussion discontinued
(vi) Episodes involving the use of the first language	13. No use of L1	38. Use of L1
(vii) Peer consulting linguistic assistance during exchange	14. Explicit reference to linguistic assistance	39. No reference to linguistic assistance
(viii) Types of resolution	15. Appropriately solved 16. Unresolved and abandoned 17. Unresolved, leading to a request for outside intervention	40. Inappropriately solved

The 17 subcategories of interactional episodes that did not meet the assumptions of normality and homogeneity of variance were analysed using Mann-Whitney and Kruskal-Wallis tests, to

investigate the influence of *Group* and *English proficiency level* respectively on the numbers of interactional episodes exemplifying each characteristic. For the remaining 23 subcategories that did meet the assumptions, simple regression was used to examine the influence of *Group* and *English proficiency level*. In addition, multiple regression with *Group* $\times$ *English proficiency level* as an interaction term was applied to probe further into whether the influence of *Group* on the number of interactional episodes might vary at different levels of English proficiency.

In the following subsections, only measures of peer interaction that showed a statistical significance (of $p < .05$) are reported.

5.2.1 Group (treatment condition)

Table 41 summarizes the results of the Mann-Whitney two-tailed test. Of the 17 subcategories of measures of peer interaction that were analysed using this test, the two groups differed significantly on only four measures.

Table 41
Significant results of the Mann-Whitney test

Category of interaction	Measure of interaction	Group	N	Mean	SD	U	p
Activation of peer expertise	Mutual contribution	DyadicEA	15	27.67	14.98	42.00	.003
		DyadicBA	15	13.27	8.71		
Nature of peer assistance	Indicating that something needs improvement or alteration, and working together to obtain solution	DyadicEA	15	26.20	14.02	43.00	.004
		DyadicBA	15	12.67	8.17		
Peer consulting linguistic assistance during exchange	Explicit reference to linguistic assistance	DyadicEA	15	23.00	14.72	62.50	.04
		DyadicBA	15	32.53	15.23		
Types of resolution	Unresolved, leading to a request for outside intervention	DyadicEA	15	3.87	2.67	62.50	.04
		DyadicBA	15	1.93	2.40		

N = Number of dyads; SD = Standard deviation; U = test statistic for Mann-Whitney test

There was a marked difference in one type of *Activation of peer expertise*: there were significantly more instances of *Mutual contribution* in the DyadicEA Group (Median = 26) than

in the DyadicBA Group (Median = 13), $U = 42.00$, $p < .01$, $r = -.53$ (large effect size). This result provides support for the hypothesis that the nature of linguistic assistance influences the way in which peer assistance by the acting expert is provided. Specifically, with enhanced linguistic assistance there is a higher tendency for both partners in a dyad to contribute to the discussion; this means that instead of displaying dominant or individualistic (non-engaging) behaviour during task performance, there is mutual engagement and sharing of expertise as they work through a problem together.

A significant difference in the category of *Nature of peer assistance* between the two treatment groups was also found. Learners in the DyadicEA Group were significantly more inclined to point out a linguistic difficulty and work together to obtain a solution to the problem (Median = 26) than those in the DyadicBA Group (Median = 11), $U = 43.00$, $p < .01$, $r = -.53$ (large effect size). This suggests that the provision of enhanced linguistic assistance may facilitate mutual scaffolding in dyads.

There was also a significant difference in how often dyads referred to the linguistic assistance that they had chosen for their work. Interestingly, during collaboration, learners in the DyadicBA Group referred to their lists of isolated words more often (Median = 27) than learners in the DyadicEA Group referred to their lists of words or expressions (Median = 21), $U = 62.50$, $p < .05$, $r = -.38$ (medium effect size).

Finally, in terms of type of resolution, learners in the DyadicEA Group were more likely to request help from the teacher or researcher, or to refer to a dictionary (Median = 4) than learners in the DyadicBA Group (Median = 1), $U = 62.50$, $p < .05$, $r = -.38$ (medium effect size). This result, however, needs to be interpreted with caution because of the small number of instances.

To follow up these results, with *Group* as a single explanatory variable, simple regression was applied to the 23 subcategories of interactional episodes that met the requirements for parametric tests, to determine whether there was any influence of the nature of linguistic assistance on the characteristics of collaborative dialogues. No statistically significant relationships were found

between *Group* and any of the 23 subcategories. Thus, *Group* had a significant effect on only four measures of dyadic learner interaction.

5.2.2 English proficiency level

The Kruskal-Wallis test was employed to establish if there were any relationships between *English proficiency level* and the characteristics of dyadic peer interaction that did not meet the requirements for parametric testing. Table 42 displays the significant results of the two-tailed tests. Of the seventeen subcategories, *English proficiency level* was found to be significant in relation to only three measures of peer interaction.

Table 42
Significant results of the Kruskal-Wallis test

Category of interaction	Measure of interaction	English proficiency level	N	Mean	SD	H	df	p
Focus of episodes (subtypes of CREs and LREs)	Punctuation LRE	Low	6	5.83	11.44	9.11	2	.01
		Middle	12	1.58	3.34			
		High	12	8.00	6.22			
Quality of response (level of engagement)	Limited, short direct response to show acknowledgement	Low	6	12.67	9.14	8.14	2	.02
		Middle	12	12.58	6.26			
		High	12	29.00	18.19			
Types of resolution	Appropriately solved	Low	6	77.50	33.83	6.52	2	.04
		Middle	12	117.25	43.43			
		High	12	149.25	61.64			

N = Number of dyads; SD = Standard deviation; H = test statistic for Kruskal-Wallis test; df = degree of freedom

The number of *Punctuation LREs* was significantly affected by *English proficiency level*, $H(2) = 9.11$, $p < .05$. A post hoc analysis of the differences between mean rank pairs was performed using Mann-Whitney tests, with a Bonferroni correction (at a critical level of significance of .025). It was found that learners of middle *English proficiency level* (Median = 1) produced significantly fewer *Punctuation LREs* than learners of high *English proficiency level* (Median = 7), $U = 20.50$, $r = -.39$ (medium effect size). However, there was no significant difference in the numbers of *Punctuation LREs* produced by learners of low *English proficiency level* (Median = 1) and those of high *English proficiency level*, $U = 20.00$, $r = -.19$ (small effect size). Similarly,

there was no significant difference in the production of *Punctuation LREs* between the low and middle proficiency learners, $U = 29.00$, $r = -.70$ (small effect size). The absence of significant differences may have been due to the small numbers of participants in the analyses (low *English proficiency level*: $N = 6$; high *English proficiency level*: $N = 12$).

Limited, short direct responses to show acknowledgement was also found to be significantly influenced by *English proficiency level*, $H(2) = 8.14$, $p < .05$. Mann-Whitney tests were used to follow up this finding. A Bonferroni correction was applied and all effects are reported at .025 level of significance. Contrasts showed that learners of middle *English proficiency level* (Median = 11) generated significantly fewer *Limited, short direct responses to show acknowledgement* than learners of high *English proficiency level* (Median = 23), $U = 28.00$, $r = -.33$ (medium effect size). There were, however, no significant differences in *Limited, short direct responses to show acknowledgement* between learners of low *English proficiency level* (Median = 10.5) and learners of high *English proficiency level*, $U = 13.00$, $r = -.28$ (small effect size), and between learners of low *English proficiency level* and those of middle *English proficiency level*, $U = 32.00$, $r = -.05$ (small effect size). Again, this may be due to small numbers of participants in the analyses.

English proficiency level was also found to be significant in relation to *Appropriately solved resolutions*, $H(2) = 6.52$, $p < .05$. A post hoc analysis using Mann-Whitney tests was carried out, with a Bonferroni correction (all effects are reported at .025 level of significance). Contrasts did not reveal a significant difference in the numbers of appropriately solved resolutions produced by learners of middle *English proficiency level* (Median = 108) compared to those produced by learners of high *English proficiency level* (Median = 126.5), $U = 49.00$, $r = -.17$ (small effect size). There was also no significant difference in the production of *Appropriately solved resolutions* between the middle and low proficiency learners, $U = 17.00$, $r = -.23$ (small effect size). However, learners of low *English proficiency level* (Median = 72.5) resolved significantly fewer episodes than learners of high *English proficiency level*, $U = 11.50$, $r = -.30$ (medium effect size).

With each of the 23 subcategories of interactional episodes that met the requirements for parametric tests, a simple regression procedure, with *English proficiency level* as a single explanatory variable, was carried out to ascertain the extent to which *English proficiency level* can explain the production of various types of interactional episodes in dyadic peer interaction. *English proficiency level* was found to be significant for three measures of peer interaction, as presented in Table 43, Table 44 and Table 45.

Table 43

Simple regression analysis with number of Sentence structure LRE as outcome variable

Measure: Sentence structure LRE	B	SE	t	p
Constant	2.71	3.60	.75	.46
English proficiency level	3.52	1.55	2.27	.03
Explained variance for final model: $R^2 = .16$, $F = 5.17$, $p < .05$				

A positive correlation was found between the production of *Sentence structure LREs* and *English proficiency level* ($r = .40$, $p < .05$) and the regression model explained 16 per cent of the variance. This result suggests that the higher the level of English proficiency of learners, the more likely they were to hold discussions related to the construction of English sentences.

Table 44

Simple regression analysis with number of Elaborate, rephrasing episodes as outcome variable

Measure: Elaborate, rephrasing	B	SE	t	p
Constant	25.67	8.52	3.01	.01
English proficiency level	7.83	3.66	2.14	.04
Explained variance for final model: $R^2 = .14$, $F = 4.57$, $p < .05$				

The production of *Elaborate, rephrasing* episodes was also significantly and positively correlated with *English proficiency level* ($r = .38$, $p < .05$). This means that learners who had a higher level of English proficiency were more likely to rephrase their task partner's responses or elaborate upon them than those who had a lower level of English proficiency. The regression model predicted 14 per cent of the variance.

Table 45

Simple regression analysis with number of Inappropriately solved resolutions as outcome variable

Measure: Inappropriately solved (Types of resolution)	B	SE	t	p
Constant	52.00	9.02	5.77	.00
English proficiency level	-8.50	3.88	-2.19	.04
Explained variance for final model: $R^2 = .15$, $F = 4.80$, $p < .05$				

Further application of simple regression analysis revealed a significant and negative correlation between the number of *Inappropriately solved* episodes and *English proficiency level* ($r = .38$, $p < .05$). In other words, the production of inappropriately solved resolutions depended partly on learners' English proficiency levels; the lower the level of English proficiency of learners, the more prone they were to produce inappropriately solved resolutions. The regression model predicted 15 per cent of the variance.

However, for all three measures of peer interaction, only a small proportion of the variance could be explained by *English proficiency level*. This means that there are other variables not measured in this study that have affected the characteristics of interactional episodes during dyadic task performance.

In all, when comparing learners of high, middle and low English proficiency levels, significant differences were found in three measures of peer interaction: *Punctuation LRE*, *Limited, short direct response to show acknowledgement* episodes and *Appropriately solved* resolutions. There were also three measures of peer interaction that were significantly associated with *English proficiency level*: *Sentence structure LREs*, *Elaborate, rephrasing* episodes and *Inappropriately solved* resolutions. These six measures did not reveal any statistically significant relationship with *Group* (treatment condition).

5.2.3 Group and English proficiency level

A multiple regression procedure was applied to ascertain the extent to which the nature of linguistic assistance can explain the production of various types of interactional episodes in collaborative dialogues. With *English proficiency level* (a covariate) and *Group x English proficiency level* (an interaction term) as the explanatory variables, the interaction term was found to be significant for two measures of peer interaction, as presented in Tables 46 and 47.

Table 46

Multiple regression analysis with number of Proposing alternatives episodes as outcome variable

Measure: Proposing alternatives	B	SE	t	p
Constant	-1.41	4.40	-.32	.75
English proficiency level	8.10	2.49	3.25	.003
English proficiency level x Group	-2.37	1.15	-2.05	.05

Explained variance for final model: $R^2 = .28$, $F = 5.33$, $p < .05$

The results indicated that *Group x English proficiency level* significantly accounted for the number of *Proposing alternatives* episodes, $R^2 = .28$, $F(2, 27) = 5.33$, $p < .05$ with a large effect size (Cohen's $f^2 = .40$). What this means is that the relationship between *Group* (treatment condition) and *Proposing alternatives* may vary at different levels of English proficiency. In this case, it was learners who were in the high level proficiency category in the DyadicEA Group who tended to generate a greater number of *Proposing alternatives* episodes than those in the lower proficiency categories in the same group. The number of *Proposing alternatives* episodes was lower for learners in the DyadicBA Group at each level of English proficiency. In partial support of the hypothesis for Research Question 4, there is tentative evidence to show that *Group* influences the number of *Proposing alternatives* episodes generated during peer interaction ($N = 30$, Mean = 8.60, SD = 8.37).

Table 47

Multiple regression analysis with number of Asking question to raise own awareness, understanding or knowledge of partner's meaning episodes as outcome variable

Measure: Asking question to raise own awareness, understanding or knowledge of partner's meaning	B	SE	t	p
Constant	-1.17	1.16	-1.01	.32
English proficiency level	2.17	.65	3.35	.002
English proficiency level x Group	-.67	.30	-2.22	.04

Explained variance for final model: $R^2 = .29$, $F = 5.61$, $p < .05$

As noted in Table 47, the multiple regression analysis also revealed that a particular type of peer assistance episode, *Asking question to raise own awareness, understanding or knowledge of partner's meaning*, was negatively associated with *Group x English proficiency level*, $R^2 = .29$, $F(2, 27) = 5.61$, $p < .01$. The effect size was large, $f^2 = .42$. Here, high English proficiency learners in the DyadicEA Group were more likely to produce a greater number of *Asking question to raise own awareness, understanding or knowledge of partner's meaning* episodes

than those with lower English proficiency in the same group. This gives partial support to an affirmative answer to Research Question 4, i.e., there is tentative evidence that *Group*, at different levels of English proficiency, influences the number of *Asking question to raise own awareness, understanding or knowledge of partner's meaning* episodes. However, this result needs to be interpreted with the caveat that the number of episodes in this category was small ($N = 30$, Mean = 1.40, SD = 2.19).

In conclusion, regarding Research Question 4, based on the results of both parametric and non-parametric tests, there is tentative evidence, particularly in relation to *English proficiency level*, that *Group* (different degrees of linguistic assistance) affects the production of various types of interactional episodes.

Up to this point, findings have revealed that the provision of varying degrees of linguistic assistance to the young learners in the two treatment groups appeared to have significantly influenced the numbers of certain types of interactional episodes generated during collaborative writing tasks. Another factor found to have affected some of the characteristics of peer interaction was learners' English proficiency levels, although the impact was small.

The next section presents the findings for Research Question 5.

5.3 Indirect relationship between linguistic assistance and L2 written performance

RQ5 Does the quantity of episodes of different interactional categories produced during dyadic collaboration mediate subsequent L2 written performance?

In the previous chapter, it was found that linguistic assistance, both enhanced and basic, has a direct impact on certain aspects of L2 narrative writing performance. Moreover, in comparing the differences in the numbers of collaborative episodes between the DyadicEA and DyadicBA Groups (Section 5.2), it was found that linguistic assistance influences the production of certain types of interactional episodes. These findings suggested a link between linguistic assistance,

peer interaction and subsequent individual L2 written performance. This section addresses the possibility of such a relationship.

The following results of the regression analysis explained, first, the influence of *Group* (treatment condition) and *Composite pretest writing scores* (prior attainment) on *Composite posttest writing scores* at immediate posttest, and, second, the extent to which the numbers of specific categories of interactional episodes contributed uniquely to learners' subsequent written performance, after controlling for the effects of the treatment and learners' prior attainment. Table 48 shows the order in which the analysis was performed. Only results with $p < .05$ were considered significant.

5.3.1 *Focus of episodes as mediating variables*

Table 48 presents the results of the regression analysis performed with the subcategories of *Focus of episodes*, i.e., the primary focus of episodes, whether particular aspects of language (subtypes of LREs) or story content (subtypes of CREs), as the mediating variables and *Composite posttest writing scores for Quality of ideas* as the outcome variable.

Table 48
Hierarchical multiple regression analysis with Focus of episodes subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	9.60	2.44	
Group	-2.75	.78	-.52*
Composite pretest writing scores	.41	.15	.39*
Idea-based CRE	.04	.02	.30
Structure-based CRE	-.08	.09	-.17
Lexical LRE	.06	.03	.35
Spelling LRE	-.03	.06	-.10
Sentence structure LRE	.11	.08	.27
Verb tenses and form LRE	-.08	.08	-.30
Connectives LRE	-.15	.14	-.21
Punctuation LRE	.21	.07	.54*
Other form-based LRE	-.04	.11	-.10

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .23$ for Step 2; * $p < .05$

With the first block of *Group* (treatment condition) and *Composite pretest writing scores for Quality of ideas* (prior attainment) entered into the regression model at Step 1, R^2 was .51 ($F(2, 27) = 13.82, p < .05$). This means that the effect of providing linguistic assistance, when considered together with learners' prior attainment, explained 51 per cent of the variance in learners' subsequent individual written performance on *Quality of ideas*. With the nine subcategories of *Focus of episodes* entered in the second block of the regression analysis at Step 2, R^2 was .73 ($F(11, 18) = 4.45, p < .05$). This indicates that the varying numbers of interactional episodes of different categories accounted for an additional 23 per cent of the variance. The analysis shows that *Focus of episodes*, when analysed in conjunction with *Group*, contributed significantly to the outcome variable of learner performance on *Quality of ideas* ($p < .05$). In particular, there was a significant association between the numbers of *Punctuation LREs* and learner performance. The model shows that the more learners generated *Punctuation LREs* in their dialogic collaboration, the better their performance in their expression of ideas in the subsequent individual written performance.

Table 49
Hierarchical multiple regression analysis with *Focus of episodes* subcategories as mediating variables and *Composite posttest writing scores for Story shape and structure* as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	8.38	1.94	
Group	-2.02	.68	-.41*
Composite pretest writing scores	.32	.12	.32*
Idea-based CRE	.04	.02	.34*
Structure-based CRE	-.08	.08	-.17
Lexical LRE	.07	.03	.42*
Spelling LRE	-.13	.05	-.45*
Sentence structure LRE	-.04	.07	-.10
Verb tenses and form LRE	-.03	.07	-.13
Connectives LRE	-.03	.12	-.05
Punctuation LRE	.26	.06	.72*
Other form-based LRE	-.01	.09	-.02

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .34$ for Step 2; * $p < .05$

The results of multiple regression analysis with *Composite posttest writing scores for Story shape and structure* as the outcome variable are shown in Table 49. R^2 for the model indicated that while *Group* and *Composite pretest writing scores for Story shape and structure* explained 43 per cent of the variance ($F(2, 27) = 10.34, p < .05$) in learners' performance on *Story shape and structure*, the numbers of episodes of different types of *Focus of episodes* accounted for an additional 34 per cent ($R^2 = .77, F(11, 18) = 2.34, p < .05$). In fact, it was found that L2 written performance was significantly affected by the numbers of *Idea-based CREs*, *Lexical LREs*, *Spelling LREs* and *Punctuation LREs*. The greater the number of *Idea-based CREs*, the better the *Story shape and structure* performance in learners' subsequent individual written production. Similarly, the more *Lexical LREs* and *Punctuation LREs* learners included in their discussions, the higher their scores for *Story shape and structure* in *Composite posttest writing*. In contrast, the production of *Spelling LREs* appears to have had a negative effect on *Story shape and structure* in learners' written performance. This effect, significant at the .05 level, indicates that the higher the number of *Spelling LREs* learners produced in collaborative dialogue, the lower their individual *Story shape and structure* scores. The analysis provides support for the hypothesis that the quantity of episodes of different types of *Focus of episodes* mediate learners' subsequent L2 written performance in terms of *Story shape and structure*.

Table 50

Hierarchical multiple regression analysis with Focus of episodes subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	3.63	2.10	
Group	-.21	.71	-.05
Composite pretest writing scores	.56	.14	.63*
Idea-based CRE	.04	.02	.38*
Structure-based CRE	-.27	.08	-.63*
Lexical LRE	.04	.03	.27
Spelling LRE	-.03	.05	-.10
Sentence structure LRE	.06	.07	.16
Verb tenses and form LRE	-.03	.07	-.13
Connectives LRE	.30	.13	.47*
Punctuation LRE	.17	.06	.50*
Other form-based LRE	-.15	.09	-.45

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .33$ for Step 2; * $p < .05$

Table 50 displays the results of multiple regression analysis with *Composite posttest writing scores for Vocabulary and spelling* as the outcome variable. Although R^2 for the model indicated that *Group* and *Composite pretest writing scores* explained 42 per cent of the variance ($F(2, 27) = 9.90, p < .05$) in learners' performance on *Vocabulary and spelling*, there was no significant association between learners' performance on *Vocabulary and spelling* and *Group* ($p = .33$). This indicates that the level of progress made by the DyadicEA and DyadicBA Groups did not differ significantly in terms of *Vocabulary and spelling*. After adding the nine subcategories of *Focus of episodes* in the second block, there was a significant increase in R^2 , accounting for an additional 33 per cent in the variance ($R^2 = .75, F(11, 18) = 4.95, p < .05$). Significant associations between learner performance on *Vocabulary and spelling* and the number of *Idea-based CREs* were also detected in the analysis. It was found that the more *Idea-based CREs* there were in peer interactions, the better the learners' performance on *Vocabulary and spelling* in their subsequent writings. Likewise, where there were more *Connectives LREs* and *Punctuation LREs* in peer interactions, learners were more likely to obtain higher scores for *Vocabulary and spelling*. *Structure-based CREs*, on the other hand, appeared to be negatively associated with

learner performance. This means that the greater the number of *Structure-based CREs* dyads generated in their discussions, the lower their *Vocabulary and spelling* scores. The analysis shows that it was the quantity of episodes of different categories of *Focus of episodes*, not *Group*, that contributed significantly to the explained variance ($p < .05$). In other words, the findings do not provide support for the hypothesis that linguistic assistance affects subsequent L2 written performance indirectly through peer interaction; instead, the quantity of *Focus of episodes* categories of peer interaction appears to have a direct influence on L2 written performance on *Vocabulary and spelling*.

Table 51

Hierarchical multiple regression analysis with Focus of episodes subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.76	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	4.68	2.36	
Group	-1.22	.89	-.18
Composite pretest writing scores	.73	.15	.64*
Idea-based CRE	.02	.03	.11
Structure-based CRE	.06	.10	.11
Lexical LRE	.01	.04	.06
Spelling LRE	-.05	.07	-.13
Sentence structure LRE	-.01	.09	-.01
Verb tenses and form LRE	.02	.09	.06
Connectives LRE	.09	.16	.10
Punctuation LRE	.16	.08	.32*
Other form-based LRE	-.13	.12	-.28

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .11$ for Step 2; * $p < .05$

Table 51 depicts the results of multiple regression analysis with *Composite posttest writing scores for Implicit grammar* as the outcome variable. R^2 for the model indicated that *Group* and *Composite pretest writing scores for Implicit grammar* explained 68 per cent of the variance ($F(2, 27) = 28.60, p < .05$) in learners' performance on *Implicit grammar*. After adding *Focus of episodes* in the second block, there was an increase in R^2 , accounting for an additional 11 per cent in the variance ($R^2 = .79, F(11, 18) = 6.17, p < .05$). Furthermore, a significant positive association between learner performance on *Implicit grammar* and the number of *Punctuation*

LREs was detected in the analysis. This means that dyads who generated a greater number of *Punctuation LREs* tended to score higher in *Implicit grammar* in their subsequent writing. The results provide support for the hypothesis that the quantity of episodes of different categories of *Focus of episodes* mediates subsequent L2 written performance in terms of *Implicit grammar*.

5.3.2 Activation of peer expertise as mediating variables

Learners' *Quality of ideas* immediate posttest scores were analysed using hierarchical multiple regression at .05 level of significance, and the results are presented in Table 52.

Table 52

Hierarchical multiple regression analysis with Activation of peer expertise subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	9.46	2.26	
Group	-1.87	.85	-.35*
Composite pretest writing scores	.47	.15	.44*
Requested assistance	.04	.03	.26
Unrequested assistance	-.02	.01	-.27
Mutual contribution	-.06	.04	.33

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .08$ for Step 2; * $p < .05$

The results indicated that *Group* and *Composite pretest writing scores for Quality of ideas* significantly accounted for learner performance, $R^2 = .51$ ($F(2, 27) = 13.82$, $p < .05$). This means that more than 50 per cent of the variance in learners' *Quality of ideas* performance in their subsequent writing was explained by the effects of treatment and prior attainment. The numbers of episodes of different categories of *Activation of peer expertise*, on the other hand, explained only 8 per cent of the variance ($R^2 = .08$ ($F(5, 24) = 6.65$, $p < .05$). There were no significant associations detected between any of the categories of the *Activation of peer expertise* and learners' *Quality of ideas* performance. Here, the findings do not provide support for the hypothesis that the quantity of episodes of different types of *Activation of peer expertise* mediates subsequent L2 *Quality of ideas* performance.

Table 53

Hierarchical multiple regression analysis with Activation of peer expertise subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	8.09	2.25	
Group	-1.54	.89	-.31
Composite pretest writing scores	.44	.15	.45*
Requested assistance	.04	.03	.29
Unrequested assistance	-.01	.01	-.20
Mutual contribution	.03	.04	.15

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .06$ for Step 2; * $p < .05$

As seen in Table 53, R^2 was .43 when the first block of *Group* and *Composite pretest writing scores for Story shape and structure* was entered into the regression model ($F(2, 27) = 10.34$, $p < .05$). This means that 43 per cent of the variance of learners' *Story shape and structure* scores at immediate posttest was explained by the two factors. However, when the second block, which comprised *Activation of peer expertise*, was entered into the model, R^2 was .49 ($F(5, 24) = 4.60$, $p < .05$). In other words, the numbers of episodes of different categories of *Activation of peer expertise* accounted for only 6 per cent of the variance. The results do not provide support for the hypothesis that the quantity of episodes of different types of *Activation of peer expertise* mediates subsequent L2 *Story shape and structure* performance.

Table 54

Hierarchical multiple regression analysis with Activation of peer expertise subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	5.21	2.03	
Group	-.15	.83	-.03
Composite pretest writing scores	.51	.14	.57*
Requested assistance	.04	.03	.28
Unrequested assistance	-.03	.01	-.43
Mutual contribution	.07	.04	.39

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .10$ for Step 2; * $p < .05$

Table 54 displays the results of the multiple regression analysis with *Composite posttest writing scores for Vocabulary and spelling* as the outcome variable. There was no significant association between learners' *Vocabulary and spelling* performance and *Group* ($p = .33$). This indicates that learners in the DyadicEA and DyadicBA Groups did not differ significantly in their *Vocabulary and spelling* performance after eight weeks of intervention. While the first block of *Group* and *Composite pretest writing scores* explained 42 per cent of the variance ($R^2 = .42$, $F(2, 27) = 9.90$, $p < .05$), the inclusion of *Activation of peer expertise* in the second block accounted for an additional 10 per cent of the variance in learners' performance on *Vocabulary and spelling* ($R^2 = .52$, $F(5, 24) = 5.18$, $p < .05$). However, no significant associations were found between learners' *Vocabulary and spelling* performance and the numbers of episodes of any of the subcategories of the *Activation of peer expertise*. In other words, there was no evidence of an indirect effect of linguistic assistance on L2 *Vocabulary and spelling* performance through the quantity of episodes of different types of *Activation of peer expertise*.

Table 55

Hierarchical multiple regression analysis with Activation of peer expertise subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	4.89	2.17	
Group	-1.73	.92	-.26
Composite pretest writing scores	.78	.14	.69*
Requested assistance	.04	.03	.20
Unrequested assistance	-.01	.01	-.10
Mutual contribution	.01	.04	.04

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .03$ for Step 2; * $p < .05$

In Table 55, the hierarchical multiple regression analysis with the numbers of episodes of different categories of *Activation of peer expertise* as the mediating variables and *Composite posttest writing scores for Implicit grammar* as the outcome variable revealed that whereas *Group* and *Composite pretest writing scores for Implicit grammar* accounted for 68 per cent of the variance ($F(2, 27) = 28.60$, $p < .05$) in learners' performance on *Implicit grammar*, *Activation*

of *peer expertise* explained only an additional 3 per cent ($R^2 = .70$, $F(5, 24) = 11.42$, $p < .05$).

The analysis shows that once the first block was entered into the regression model, no other variables added significantly to the explained variance. The results do not provide support for the hypothesis that the quantity of episodes of various types of *Activation of peer expertise* mediates L2 *Implicit grammar* written performance.

5.3.3 Nature of peer assistance as mediating variables

Table 56 displays the results of the regression analysis with the ten subcategories of *Nature of peer assistance* as the mediating variables and *Composite posttest writing scores for Quality of ideas* as the outcome variable.

Table 56

Hierarchical multiple regression analysis with Nature of peer assistance subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	10.07	2.87	
Group	-1.11	1.01	-.21
Composite pretest writing scores	.41	.15	.39*
Providing approval	.18	.13	.28
Indicating that something needed alteration, but not giving further help	.08	.21	.06
Asking question to raise partner's awareness	.01	.07	.03
Prompting	.09	.15	.11
Proposing alternatives	.06	.11	.18
Telling/directing/instructing	-.01	.03	-.08
Correcting	-.06	.03	-.51
Explaining/clarifying	.09	.10	.24
Indicating that something needed improvement or alteration, and working together to obtain solution	.06	.05	.30
Asking question to raise own awareness, understanding or knowledge of partner's meaning (reflection)	-.10	.40	-.08

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .21$ for Step 2; * $p < .05$

The results revealed that *Group* and *Composite pretest writing scores for Quality of ideas* were significantly associated with higher *Composite posttest writing scores* ($F(2, 27) = 13.82$, $p < .05$).

The two variables explained 51 per cent of the variance in learners' *Quality of ideas* written performance. With *Nature of peer assistance* entered in the second block of the regression analysis, R^2 increased to .72 ($F(12, 17) = 3.64, p < .05$). There were, however, no significant associations between learners' *Quality of ideas* performance and the numbers of episodes of any of the subcategories of *Nature of peer assistance*. In other words, the results do not support the hypothesis that the quantity of episodes of different types of *Nature of peer assistance* mediates subsequent L2 *Quality of ideas* performance.

Table 57

Hierarchical multiple regression analysis with Nature of peer assistance subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	9.40	2.67	
Group	-1.03	1.03	-.21
Composite pretest writing scores	.35	.15	.36*
Providing approval	.04	.13	.07
Indicating that something needed alteration, but not giving further help	.19	.21	.15
Asking question to raise partner's awareness	-.02	.07	-.05
Prompting	.08	.16	.11
Proposing alternatives	.01	.11	.02
Telling/directing/instructing	-.01	.03	-.02
Correcting	-.07	.03	-.59*
Explaining/clarifying	.24	.10	.66*
Indicating that something needed improvement or alteration, and working together to obtain solution	.03	.05	.13
Asking question to raise own awareness, understanding or knowledge of partner's meaning (reflection)	-.09	.41	-.08

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .24$ for Step 2; * $p < .05$

As seen in Table 57, at Step 1, *Group* and *Composite pretest writing scores for Story shape and structure* were entered into the regression model, and $R^2 = .43$ ($F(2, 27) = 10.34, p < .05$), i.e., the two variables explained 43 per cent of the variance in learner performance on *Story shape and structure*. At Step 2, the numbers of episodes of different categories of *Nature of peer assistance* accounted for an additional 24 per cent ($R^2 = .67, F(12, 17) = 2.89, p < .05$). There was a further

significant association between the number of *Correcting* episodes in dyadic interactions and learners' *Story shape and structure* performance: a lower production of *Correcting* during peer collaboration was associated with higher *Story shape and structure* scores in the writing posttest. In contrast, the number of *Explaining/Clarifying* episodes was positively associated with learner performance. In other words, the more *Explaining/Clarifying* interactional episodes learners generated in their discussions, the more likely they were to obtain better scores on *Story shape and structure*. The results indicate that the quantity of episodes of different types of *Nature of peer assistance*, when analyzed in conjunction with the effect of the treatment condition, contributed significantly to the explained variance. They support the hypothesis that providing linguistic assistance to young learners affects L2 written performance indirectly through the quantity of different types of peer-mediated interaction.

Table 58

Hierarchical multiple regression analysis with Nature of peer assistance subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	6.31	2.76	
Group	-.18	1.06	-.04
Composite pretest writing scores	.50	.18	.56*
Providing approval	.11	.13	.20
Indicating that something needed alteration, but not giving further help	.30	.22	.25
Asking question to raise partner's awareness	-.05	.07	-.13
Prompting	.20	.18	.29
Proposing alternatives	.08	.11	.26
Telling/directing/instructing	-.01	.03	-.10
Correcting	-.04	.03	-.38
Explaining/clarifying	.01	.11	.10
Indicating that something needed improvement or alteration, and working together to obtain solution	.03	.05	.17
Asking question to raise own awareness, understanding or knowledge of partner's meaning (reflection)	-.19	.44	-.17

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .20$ for Step 2; * $p < .05$

Learners' *Composite posttest writing scores for Vocabulary and spelling* were analysed using multiple regression at .05 level of significance and the results are presented in Table 58. *Group* and *Composite pretest writing scores for Vocabulary and spelling* accounted for 42 per cent of the variance ($F(2, 27) = 9.90, p < .05$) in learners' *Vocabulary and spelling* performance. However, there was no significant association between *Group* and learner performance ($p = .33$). This indicates that the DyadicEA Group's *Vocabulary and spelling* performance did not differ significantly from that of the DyadicBA Group's. The analysis further shows that the numbers of episodes of various types of *Nature of peer assistance*, when analysed in conjunction with *Group* and *Composite pretest writing scores*, accounted for an additional 20 per cent of the variance ($R^2 = .62, F(12, 17) = 2.34, p = .05$). Again, there were no significant associations between learners' *Vocabulary and spelling* performance and the quantity of episodes of the subcategories of *Nature of peer assistance*. In other words, the results do not support the hypothesis that the quantity of episodes of different types of *Nature of peer assistance* mediates subsequent L2 vocabulary and spelling performance.

Table 59

Hierarchical multiple regression analysis with Nature of peer assistance subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	6.85	2.30	
Group	-1.88	.95	-.28
Composite pretest writing scores	.83	.14	.74*
Providing approval	.32	.12	.40*
Indicating that something needed alteration, but not giving further help	.32	.20	.19
Asking question to raise partner's awareness	-.08	.06	-.15
Prompting	.22	.16	.23
Proposing alternatives	.24	.10	.60*
Telling/directing/instructing	-.03	.02	-.17
Correcting	-.02	.03	-.11
Explaining/clarifying	-.06	.09	-.12
Indicating that something needed improvement or alteration, and working together to obtain solution	-.03	.05	-.10
Asking question to raise own awareness, understanding or knowledge of partner's meaning (reflection)	-.83	.41	-.54

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .17$ for Step 2; * $p < .05$

The results from the hierarchical multiple regression analysis that examined learners' *Implicit grammar* scores at .05 level of significance are presented in Table 59. R^2 for the model indicated that while *Group* and *Composite pretest writing scores for Implicit grammar* explained 68 per cent of the variance in learner performance on *Implicit grammar* ($F(2, 27) = 28.60$, $p < .05$), the numbers of episodes of different categories of *Nature of peer assistance* accounted for an additional 17 per cent in the posttest scores ($R^2 = .85$, $F(12, 17) = 7.79$, $p < .05$). The analysis shows that, even after controlling for the effects of treatment and prior attainment, the quantity of episodes of various types of *Nature of peer assistance* produced during interaction significantly affected learners' *Implicit grammar* performance. In addition, there was a significant positive association between the *Implicit grammar* posttest scores and the number of *Providing approval* episodes. There was also a significant positive association between *Implicit grammar* and the number of *Proposing alternatives* episodes. This means that dyads who generated a greater number of *Providing approval* and *Proposing alternatives* in peer interactions obtained higher

scores at *Implicit grammar* in their subsequent writing. The results provide support for the hypothesis that there is an indirect impact of linguistic assistance on L2 written performance through the quantity of different types of peer-mediated interaction.

5.3.4 Partner's response to expert's contribution as mediating variables

With *Composite posttest writing scores for Quality of ideas* as the outcome variable, the explanatory variables of *Group*, *Composite pretest writing scores for Quality of ideas* and the numbers of episodes of different categories of *Partner's response to expert's contribution* were regressed using a hierarchical multiple regression procedure, as presented in Table 60.

Table 60

Hierarchical multiple regression analysis with Partner's response to expert's contribution subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	11.82	2.31	
Group	-2.40	.75	-.45*
Composite pretest writing scores	.43	.15	.40*
Response accepted	.01	.01	.14
Response rejected	.02	.05	.08
Response discontinued	-.12	.11	-.16

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .04$ for Step 2; * $p < .05$

The results revealed that *Group* and *Composite pretest writing scores for Quality of ideas* accounted for 51 per cent of the variance ($F(2, 27) = 13.82$, $p < .05$) in learners' *Quality of ideas* performance. There was a significant association between *Group* and learner performance ($p < .05$). When considered with learners' prior attainment, higher *Quality of ideas* scores were associated with being in the DyadicEA Group. The analysis further shows that the numbers of episodes of the categories of *Partner's response to expert's contribution*, when analysed in conjunction with *Group* and *Composite pretest writing scores*, accounted for only an additional 4 per cent of the variance ($R^2 = .55$, $F(5, 24) = 5.77$, $p < .05$). There were no significant associations between learners' *Quality of ideas* performance and the quantity of episodes of

different types of *Partner's response to expert's contribution*. In other words, the results do not support the hypothesis that the numbers of episodes of different types of *Partner's response to expert's contribution* mediate subsequent L2 *Quality of ideas* performance.

Table 61

Hierarchical multiple regression analysis with Partner's response to expert's contribution subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	9.41	2.23	
Group	-1.64	.77	-.33*
Composite pretest writing scores	.46	.15	.47*
Response accepted	.01	.01	.01
Response rejected	.05	.05	.22
Response discontinued	-.14	.11	-.21

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .06$ for Step 2; * $p < .05$

Table 61 displays results from the hierarchical regression analysis indicating that *Group* and *Composite pretest writing scores for Story shape and structure* were significantly associated with *Composite posttest writing scores* ($F(2, 27) = 10.34, p < .05$). The two variables explained 43 per cent of the variance in learners' *Story shape and structure* written performance. With *Partner's response to expert's contribution* in the second block of the regression analysis, R^2 increased to .49 ($F(5, 24) = 4.65, p < .05$). In other words, the varying numbers of interactional episodes of different types of *Partner's response to expert's contribution* accounted for only an additional 6 per cent of the explained variance. Furthermore, there were no significant associations between learners' *Story shape and structure* performance and the numbers of episodes of the subcategories of *Partner's response to expert's contribution*. The results do not support the hypothesis that the quantity of episodes of different categories of *Partner's response to expert's contribution* mediates subsequent L2 *Story shape and structure* performance.

Table 62

Hierarchical multiple regression analysis with Partner's response to expert's contribution subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	7.29	2.20	
Group	-.69	.78	-.14
Composite pretest writing scores	.49	.15	.55*
Response accepted	.01	.01	.19
Response rejected	-.03	.05	-.15
Response discontinued	-.07	.11	-.11

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .03$ for Step 2; * $p < .05$

In Table 62, the results revealed that although *Group* and *Composite pretest writing scores for Vocabulary and spelling* explained 42 per cent of the variance in learner performance on *Vocabulary and spelling* ($F(2, 27) = 9.90, p < .05$), there was no significant association between *Group* and learners' performance on *Vocabulary and spelling* ($p = .33$). This means that the DyadicEA Group's *Vocabulary and spelling* performance did not differ significantly from that of the DyadicBA Group at immediate posttest. The numbers of *Partner's response to expert's contribution* episodes further explained only 3 per cent of the variance ($R^2 = .45$ ($F(5, 24) = 3.94, p < .05$)). There were no significant associations detected between the numbers of episodes of any of the subcategories of the *Partner's response to expert's contribution* and learners' *Vocabulary and spelling* performance. In short, there was no evidence to show that *Group* affects subsequent L2 vocabulary and spelling performance indirectly through the quantity of episodes of different types of *Partner's response to expert's contribution*.

Table 63

Hierarchical multiple regression analysis with Partner's response to expert's contribution subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	6.05	2.14	
Group	-1.59	.80	-.24
Composite pretest writing scores	.78	.14	.69*
Response accepted	.01	.01	.09
Response rejected	.02	.05	.05
Response discontinued	-.14	.11	-.16

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .03$ for Step 2; * $p < .05$

In Table 63, the results indicated that *Group* and *Composite pretest writing scores for Implicit grammar* significantly accounted for learner performance, $R^2 = .68$ ($F(2, 27) = 28.60$, $p < .05$). This means that 68 per cent of the variance in learners' *Implicit grammar* performance in their subsequent writing was explained by the effects of treatment and prior attainment. The numbers of episodes of different types of *Partner's response to expert's contribution*, on the other hand, explained only 3 per cent of the variance ($R^2 = .71$ ($F(5, 24) = 11.47$, $p < .05$). There were no significant associations detected between the numbers of episodes of any of the subcategories of the *Partner's response to expert's contribution* and learners' *Implicit grammar* performance. Here, the findings do not provide support for the hypothesis that the quantity of episodes of different types of *Partner's response to expert's contribution* mediates subsequent L2 *Implicit grammar* performance.

5.3.5 Quality of response (level of engagement) as mediating variables

Table 64 presents results from the multiple regression analysis indicating the extent to which the numbers of specific categories of *Quality of response* contributed uniquely to learners' subsequent *Quality of ideas* written performance.

Table 64

Hierarchical multiple regression analysis with Quality of response subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	11.15	2.61	
Group	-2.28	.79	-.43*
Composite pretest writing scores	.36	.18	.34
Elaborate, with justification	.04	.12	.10
Elaborate, with suggestion	.06	.07	.16
Elaborate, rephrasing	-.01	.05	-.03
Limited, repeating	-.02	.03	-.18
Limited, short direct response to show acknowledgement	.03	.04	.19
Limited, acknowledgement not verbalized	.01	.04	.01
Discussion discontinued	.06	.15	.10

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .08$ for Step 2; * $p < .05$

R^2 for the model indicated that while *Group* and *Composite pretest writing scores for Quality of ideas* explained 51 per cent of the variance in learner performance on *Quality of ideas* ($F(2, 27) = 13.82$, $p < .05$), the numbers of episodes of different categories of *Quality of response* accounted for an additional 8 per cent in the posttest scores ($R^2 = .58$, $F(9, 20) = 3.11$, $p < .05$). The analysis shows that, after adjusting for the effects of treatment and prior attainment, the numbers of episodes of different types of *Quality of response* did not significantly affect learners' *Quality of ideas* performance. The results do not support the hypothesis that the quantity of episodes of various types of *Quality of response* mediates subsequent L2 *Quality of ideas* performance.

Table 65

Hierarchical multiple regression analysis with Quality of response subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	8.50	2.38	
Group	-1.34	.78	-.27
Composite pretest writing scores	.50	.17	.51*
Elaborate, with justification	.19	.12	.47
Elaborate, with suggestion	.09	.07	.23
Elaborate, rephrasing	-.06	.05	-.34
Limited, repeating	-.01	.03	-.02
Limited, short direct response to show acknowledgement	-.01	.05	-.05
Limited, acknowledgement not verbalized	-.03	.04	-.17
Discussion discontinued	.08	.14	.15

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .14$ for Step 2; * $p < .05$

Learners' *Story shape and structure* scores were analysed using hierarchical multiple regression at .05 level of significance and the results are presented in Table 65. R^2 value for Step 1 was .43. This means that *Group*, when considered together with *Composite pretest writing scores*, explained 43 per cent of the variance in learners' subsequent individual written performance on *Story shape and structure* ($F(2, 27) = 10.34, p < .05$). At Step 2, *Quality of response* accounted for an additional 14 per cent in the posttest scores ($R^2 = .57, F(9, 20) = 2.95, p < .05$). The analysis shows that, after adjusting for the effects of treatment and prior attainment, the numbers of episodes of different types of *Quality of response* did not significantly affect learners' *Story shape and structure* performance. There was no evidence to show that *Group* affects subsequent L2 *Story shape and structure* performance indirectly through the quantity of episodes of different categories of *Quality of response*.

Table 66

Hierarchical multiple regression analysis with Quality of response subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	7.47	2.51	
Group	-.89	.82	-.19
Composite pretest writing scores	.42	.18	.47*
Elaborate, with justification	-.06	.12	-.15
Elaborate, with suggestion	-.01	.07	-.02
Elaborate, rephrasing	-.01	.05	-.01
Limited, repeating	.01	.03	.09
Limited, short direct response to show acknowledgement	.06	.05	.39
Limited, acknowledgement not verbalized	-.04	.04	-.21
Discussion discontinued	.02	.15	.04

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .08$ for Step 2; * $p < .05$

Table 66 depicts the results of multiple regression analysis with *Composite posttest writing scores for Vocabulary and spelling* as the outcome variable. R^2 for the model indicated that *Group* and *Composite pretest writing scores for Vocabulary and spelling* explained 42 per cent of the variance ($F(2, 27) = 9.90, p < .05$) in learners' written *Vocabulary and spelling* performance. There was no significant association between *Group* and learner performance ($p = .33$). After entering the seven subcategories of *Quality of response* in the second block, there was an increase in R^2 , accounting for an additional 8 per cent in the variance ($R^2 = .50, F(9, 20) = 2.21, p = .07$). However, there were no significant associations between the numbers of episodes of any of the subcategories of the *Quality of response* and learners' *Vocabulary and spelling* performance. The results do not provide support for the hypothesis that the quantity of episodes of different types of *Quality of response* mediates subsequent L2 *Vocabulary and spelling* performance.

Table 67

Hierarchical multiple regression analysis with Quality of response subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	5.31	2.16	
Group	-1.59	.76	-.24*
Composite pretest writing scores	.72	.16	.64*
Elaborate, with justification	.03	.11	.05
Elaborate, with suggestion	.08	.06	.16
Elaborate, rephrasing	-.07	.04	-.35
Limited, repeating	-.02	.03	-.14
Limited, short direct response to show acknowledgement	.06	.04	.26
Limited, acknowledgement not verbalized	.04	.04	.15
Discussion discontinued	.12	.14	.16

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .10$ for Step 2; * $p < .05$

In Table 67, the results indicated that *Group* and *Composite pretest writing scores for Implicit grammar* significantly accounted for learner performance, $R^2 = .68$ ($F(2, 27) = 28.60$, $p < .05$). This means that 68 per cent of the variance in learners' *Implicit grammar* performance in their subsequent writing was explained by the effects of treatment and prior attainment. The numbers of episodes of the subcategories of the *Quality of response*, on the other hand, explained only 10 per cent of the variance ($R^2 = .78$ ($F(9, 20) = 8.03$, $p < .05$). There were no significant associations between the quantity of episodes of the subcategories of *Quality of response* and learners' *Implicit grammar* performance. The results do not provide evidence to support the hypothesis that *Group* affects subsequent L2 *Implicit grammar* performance indirectly through the quantity of episodes of different types of *Quality of response*.

5.3.6 Episodes involving the use of the L1 as mediating variables

Table 68 displays results from the hierarchical multiple regression analysis indicating the effects and relative importance of the explanatory and mediating variables on the *Composite posttest writing scores for Quality of ideas*.

Table 68

Hierarchical multiple regression analysis with Episodes involving the use of L1 subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	11.66	2.24	
Group	-2.41	.74	-.46*
Composite pretest writing scores	.42	.15	.39*
Use of L1	-.01	.01	-.04
No use of L1	.01	.01	.18

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .04$ for Step 2; * $p < .05$

At Step 1, *Group* and *Composite pretest writing scores for Quality of ideas* were entered into the regression model, and $R^2 = .51$ ($F(2, 27) = 13.82$, $p < .05$), i.e., the two variables explained 51 per cent of the variance in learner performance on *Quality of ideas*. At Step 2, however, *Episodes involving the use of L1* accounted for only an additional 4 per cent ($R^2 = .54$, $F(4, 25) = 7.44$, $p < .05$). There were no significant associations between the numbers of episodes of the two subcategories of *Episodes involving the use of L1* and learners' *Quality of ideas* performance. The results do not provide evidence to support the hypothesis that *Group* affects subsequent L2 *Quality of ideas* performance indirectly through the quantity of episodes of different types of *Episodes involving the use of L1*.

Table 69

Hierarchical multiple regression analysis with Episodes involving the use of L1 subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	8.82	2.29	
Group	-1.58	.78	-.32*
Composite pretest writing scores	.45	.16	.46*
Use of L1	.01	.01	.04
No use of L1	.01	.01	.12

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .01$ for Step 2; * $p < .05$

The results of the multiple regression analysis with *Composite posttest writing scores for Story shape and structure* as the outcome variable are presented in Table 69. The explanatory variables of *Group* and *Composite pretest writing scores* significantly accounted for learners' *Story shape and structure* performance, $R^2 = .43$ ($F(2, 27) = 10.34$, $p < .05$). However, the analysis demonstrates that the numbers of episodes of different types of *Episodes involving the use of L1*, when analysed in conjunction with *Group* and *Composite pretest writing scores*, added only 1 per cent of the variance in learner performance on *Story shape and structure* ($R^2 = .45$, $F(4, 25) = 5.03$, $p < .05$). There were no significant associations between the numbers of episodes of the two subcategories of *Episodes involving the use of L1* and learners' *Story shape and structure* performance. The results do not support the hypothesis that the quantity of episodes of different types of *Episodes involving the use of L1* mediates subsequent L2 *Story shape and structure* performance.

Table 70

Hierarchical multiple regression analysis with Episodes involving the use of L1 subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	7.99	2.11	
Group	-.88	.74	-.19
Composite pretest writing scores	.43	.15	.49*
Use of L1	-.01	.01	-.19
No use of L1	.01	.01	.11

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .06$ for Step 2; * $p < .05$

Table 70 displays results from the multiple regression analysis indicating that there was no significant association between *Group* and learner performance on *Composite posttest writing scores for Vocabulary and spelling* ($p = .33$). This means that DyadicEA Group's *Vocabulary and spelling* performance did not differ significantly from that of the DyadicBA Group at immediate posttest. Taken together, *Group* and *Composite pretest writing scores* explained 42 per cent of the variance of learner performance ($F(2, 27) = 9.90$, $p < .05$). In terms of peer

interaction, *Episodes involving the use of L1* accounted for only an additional 6 per cent ($R^2 = .48$, $F(4, 25) = 5.77$, $p < .05$). There were no significant associations between the numbers of episodes of the subcategories of *Episodes involving the use of L1* and learners' *Vocabulary and spelling* performance. The results do not provide evidence to support the hypothesis that *Group* affects subsequent L2 *Vocabulary and spelling* performance indirectly through the quantity of episodes of different types of *Episodes involving the use of L1*.

Table 71

Hierarchical multiple regression analysis with Episodes involving the use of L1 subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	5.37	2.19	
Group	-1.59	.81	-.24
Composite pretest writing scores	.77	.14	.69*
Use of L1	.01	.01	.03
No use of L1	.01	.01	.08

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .01$ for Step 2; * $p < .05$

As noted in Table 71, the multiple regression analysis revealed that *Group* and *Composite pretest writing scores for Implicit grammar* explained 68 per cent of the variance ($R^2 = .68$, $F(2, 27) = 28.60$, $p < .05$) in learners' written *Implicit grammar* performance. *Episodes involving the use of L1* accounted for only an additional 1 per cent in the variance ($R^2 = .68$, $F(4, 25) = 13.54$, $p < .05$). The analysis shows that, after adjusting for the effects of treatment and prior attainment, the numbers of episodes of different types of *Episodes involving the use of L1* did not significantly affect learners' *Implicit grammar* performance. The results do not provide support for the hypothesis that the quantity of episodes of various types of *Episodes involving the use of L1* mediates subsequent L2 *Implicit grammar* performance.

5.3.7 Peer consulting linguistic assistance during exchange as mediating variables

Table 72 presents the results of the regression analysis performed with the subcategories of *Peer consulting linguistic assistance during exchange* as the mediating variables and *Composite posttest writing scores for Quality of ideas* as the outcome variable.

Table 72

Hierarchical multiple regression analysis with Peer consulting linguistic assistance during exchange subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	11.19	2.20	
Group	-2.64	.85	-.50*
Composite pretest writing scores	.46	.16	.44*
Explicit reference to linguistic assistance	.02	.03	.14
No reference to linguistic assistance	.01	.01	.04

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .02$ for Step 2; * $p < .05$

With the first block of *Group* and *Composite pretest writing scores for Quality of ideas* entered into the regression model at Step 1, R^2 was .51 ($F(2, 27) = 13.82, p < .05$). This means that the effect of providing linguistic assistance, when considered together with learners' prior attainment, explained 51 per cent of the variance in learners' subsequent individual written performance on *Quality of ideas*. With the two subcategories of *Peer consulting linguistic assistance during exchange* entered in the second block of the regression analysis at Step 2, R^2 was .53 ($F(4, 25) = 7.05, p < .05$). This indicates that the interactional episodes accounted for only an additional 2 per cent of the variance. There were no significant associations between the numbers of episodes of different categories of *Peer consulting linguistic assistance during exchange* and learners' *Quality of ideas* performance. Hence, no evidence was found to show that *Group* affects subsequent L2 *Quality of ideas* performance indirectly through the numbers of different categories of *Peer consulting linguistic assistance during exchange* episodes.

Table 73

Hierarchical multiple regression analysis with Peer consulting linguistic assistance during exchange subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	9.12	2.23	
Group	-1.95	.87	-.39*
Composite pretest writing scores	.46	.15	.47*
Explicit reference to linguistic assistance	.03	.03	.18
No reference to linguistic assistance	.01	.01	.01

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .03$ for Step 2; * $p < .05$

In Table 73, the results indicated that *Group* and *Composite pretest writing scores for Story shape and structure* significantly accounted for learner performance, $R^2 = .43$ ($F(2, 27) = 10.34$, $p < .05$). This means that 43 per cent of the variance in learners' *Story shape and structure* performance in their subsequent writing was explained by the effects of treatment and prior attainment. The quantity of episodes of different categories of *Peer consulting linguistic assistance during exchange*, on the other hand, explained only 3 per cent of the variance ($R^2 = .03$ ($F(4, 25) = 5.39$, $p < .05$). There were no significant associations found between the numbers of episodes of the different categories of *Peer consulting linguistic assistance during exchange* and learners' *Story shape and structure* performance. The findings thus do not provide support for the hypothesis that the numbers of different categories of *Peer consulting linguistic assistance during exchange* episodes mediate subsequent L2 vocabulary and spelling performance.

Table 74

Hierarchical multiple regression analysis with Peer consulting linguistic assistance during exchange subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	7.10	1.95	
Group	-1.34	.81	-.28
Composite pretest writing scores	.58	.15	.65*
Explicit reference to linguistic assistance	.05	.03	.30
No reference to linguistic assistance	-.01	.01	-.20

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .07$ for Step 2; * $p < .05$

As shown in Table 74, the multiple regression analysis revealed that *Group* and *Composite pretest writing scores for Vocabulary and spelling* explained 42 per cent of the variance ($R^2 = .42$, $F(2, 27) = 9.90$, $p < .05$) in learners' written *Vocabulary and spelling* performance. There was no significant association between *Group* and learner performance ($p = .33$). The inclusion of the subcategories of *Peer consulting linguistic assistance during exchange* in the second block saw an increase in R^2 to .49: it accounted for an additional 7 per cent in the variance ($F(4, 25) = 5.97$, $p < .05$). However, there were no significant associations between the numbers of episodes of any of the subcategories of *Peer consulting linguistic assistance during exchange* and learners' *Vocabulary and spelling* performance. The results do not provide support for the hypothesis that the numbers of different categories of *Peer consulting linguistic assistance during exchange* episodes mediate subsequent L2 *Vocabulary and spelling* performance.

Table 75

Hierarchical multiple regression analysis with Peer consulting linguistic assistance during exchange subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	5.24	2.12	
Group	-1.58	.90	-.24
Composite pretest writing scores	.78	.14	.69*
Explicit reference to linguistic assistance	.01	.03	.02
No reference to linguistic assistance	.01	.01	.06

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .004$ for Step 2; * $p < .05$

In Table 75, the hierarchical multiple regression analysis with *Peer consulting linguistic assistance during exchange* as the mediating variables and *Composite posttest writing scores for Implicit grammar* as the outcome variable revealed that the first block, *Group* and *Composite pretest writing scores for Implicit grammar*, explained 68 per cent of the variance ($F(2, 27) = 28.60, p < .05$) in learners' performance on *Implicit grammar*. The inclusion of *Peer consulting linguistic assistance during exchange* in the second block accounted for less than 1 per cent ($R^2 = .68, F(4, 25) = 13.51, p < .05$). Further, there were no significant associations between the quantity of episodes of the subcategories of *Peer consulting linguistic assistance during exchange* and learners' *Implicit grammar* performance. The analysis shows that once the first block was entered into the regression model, no other variables added significantly to the explained variance. The results do not provide support for the hypothesis that the numbers of different categories of *Peer consulting linguistic assistance during exchange* episodes mediate L2 *Implicit grammar* written performance.

5.3.8 Types of resolution as mediating variables

Table 76 displays results from the multiple regression analysis indicating the extent to which the four subcategories of *Types of resolution* contributed uniquely to learners' subsequent *Quality of ideas* written performance.

Table 76

Hierarchical multiple regression analysis with Types of resolution subcategories as mediating variables and Composite posttest writing scores for Quality of ideas as outcome variable

Variables	B	SE	β
Step 1			
Constant	11.71	1.99	
Group	-2.45	.73	-.47*
Composite pretest writing scores	.48	.15	.45*
Step 2			
Constant	13.04	2.52	
Group	-2.61	.81	-.49*
Composite pretest writing scores	.36	.19	.34
Appropriately solved	.01	.01	.21
Inappropriately solved	-.02	.03	-.11
Unresolved and abandoned	-.01	.11	-.01
Unresolved, leading to a request for outside intervention	-.17	.15	-.17

Note: $R^2 = .51$ for Step 1; $\Delta R^2 = .07$ for Step 2; * $p < .05$

R^2 for the regression model indicated that while *Group* and *Composite pretest writing scores* for *Quality of ideas* explained 51 per cent of the variance in learner performance on *Quality of ideas* ($F(2, 27) = 13.82, p < .05$), *Types of resolution* accounted for an additional 7 per cent in the posttest scores ($R^2 = .57, F(6, 23) = 5.14, p < .05$). There were no significant associations between the numbers of episodes of various categories of *Types of resolution* and learners' *Quality of ideas* performance. The analysis shows that, after adjusting for the effects of treatment and prior attainment, the quantity of episodes of different categories of *Types of resolution* did not significantly affect learners' *Quality of ideas* performance. The results do not support the hypothesis that the numbers of different categories of *Types of resolution* episodes mediate subsequent L2 *Quality of ideas* performance.

Table 77

Hierarchical multiple regression analysis with Types of resolution subcategories as mediating variables and Composite posttest writing scores for Story shape and structure as outcome variable

Variables	B	SE	β
Step 1			
Constant	9.36	1.91	
Group	-1.64	.75	-.33*
Composite pretest writing scores	.48	.15	.48*
Step 2			
Constant	9.87	2.63	
Group	-1.65	.85	-.33
Composite pretest writing scores	.41	.20	.42*
Appropriately solved	.01	.01	.23
Inappropriately solved	-.01	.03	-.04
Unresolved and abandoned	-.09	.12	-.14
Unresolved, leading to a request for outside intervention	-.11	.16	-.12

Note: $R^2 = .43$ for Step 1; $\Delta R^2 = .05$ for Step 2; * $p < .05$

Learners' *Story shape and structure* scores were analysed using hierarchical multiple regression at .05 level of significance and the results are presented in Table 77. R^2 value for Step 1 was .43. This means that the effect of *Group*, when considered together with learners' *Composite pretest writing scores*, explained 43 per cent of the variance in learners' subsequent individual written performance on *Story shape and structure* ($F(2, 27) = 10.34, p < .05$). At Step 2, *Types of resolution* accounted for only an additional 5 per cent in the posttest scores ($R^2 = .48, F(6, 23) = 3.56, p < .05$). Moreover, there were no significant associations between the numbers of episodes of different categories of *Types of resolution* and learners' *Story shape and structure* performance. The analysis shows that, after controlling for the effects of treatment and prior attainment, the numbers of different categories of *Types of resolution* episodes did not significantly affect learner performance. Thus, there was no evidence to show that *Group* influences subsequent L2 *Story shape and structure* performance indirectly through the quantity of episodes of different categories of *Types of resolution*.

Table 78

Hierarchical multiple regression analysis with Types of resolution subcategories as mediating variables and Composite posttest writing scores for Vocabulary and spelling as outcome variable

Variables	B	SE	β
Step 1			
Constant	6.75	1.82	
Group	-.73	.74	-.15
Composite pretest writing scores	.52	.14	.58*
Step 2			
Constant	9.97	2.12	
Group	-.94	.72	-.20
Composite pretest writing scores	.25	.15	.28
Appropriately solved	.01	.01	.26
Inappropriately solved	-.07	.02	-.47*
Unresolved and abandoned	.04	.09	.07
Unresolved, leading to a request for outside intervention	-.11	.13	-.13

Note: $R^2 = .42$ for Step 1; $\Delta R^2 = .20$ for Step 2; * $p < .05$

The results of multiple regression analysis with *Composite posttest writing scores for Vocabulary and spelling* as the outcome variable are shown in Table 78. R^2 for the model indicated that at Step 1, *Group* and *Composite pretest writing scores for Vocabulary and spelling* explained 42 per cent of the variance ($F(2, 27) = 9.90$, $p < .05$) in learners' performance on *Vocabulary and spelling*. There was, however, no significant association between learner performance and *Group* ($p = .33$). The inclusion of the subcategories of *Types of resolution* at Step 2 saw significant increase in R^2 , accounting for an additional 20 per cent in the variance ($R^2 = .62$, $F(6, 23) = 6.35$, $p < .05$). In terms of peer interaction, a significant negative association between learner performance on *Vocabulary and spelling* and the number of *Inappropriately solved* resolutions was found in the analysis. Not surprisingly, the fewer *Inappropriately solved* resolutions learners generated in their discussions, the more likely they were to obtain higher scores in *Vocabulary and spelling*. The analysis shows that it was the quantity of episodes of various types of *Types of resolution*, not *Group*, that contributed significantly to the explained variance ($p < .05$). In other words, the findings do not provide support for the hypothesis that linguistic assistance affects subsequent L2 written performance indirectly through peer interaction; instead, the quantity of different types of peer interaction here appears to have a direct influence on L2 written performance on *Vocabulary and spelling*.

Table 79

Hierarchical multiple regression analysis with Types of resolution subcategories as mediating variables and Composite posttest writing scores for Implicit grammar as outcome variable

Variables	B	SE	β
Step 1			
Constant	5.81	1.76	
Group	-1.62	.78	-.24*
Composite pretest writing scores	.80	.13	.71*
Step 2			
Constant	8.98	1.89	
Group	-1.76	.67	-.26*
Composite pretest writing scores	.50	.13	.44*
Appropriately solved	.02	.01	.33*
Inappropriately solved	-.07	.02	-.35*
Unresolved and abandoned	-.07	.09	-.09
Unresolved, leading to a request for outside intervention	-.13	.12	-.11

Note: $R^2 = .68$ for Step 1; $\Delta R^2 = .15$ for Step 2; * $p < .05$

Table 79 displays the results of multiple regression analysis with *Composite posttest writing scores for Implicit grammar* as the outcome variable. R^2 for the model indicated that while *Group* and *Composite pretest writing scores for Implicit grammar* explained 68 per cent of the variance ($F(2, 27) = 28.60, p < .05$) in learners' performance on *Implicit grammar*, *Types of resolution* accounted for an additional 15 per cent ($R^2 = .83, F(6, 23) = 18.62, p < .05$). The analysis further revealed that L2 written performance was significantly affected by the number of *Appropriately solved* resolutions produced during dyadic collaboration. The greater the number of *Appropriately solved* resolutions learners included in their discussions, the higher their scores for *Implicit grammar* in *Composite posttest writing*. Not surprisingly, the production of *Inappropriately solved* resolutions was found to have a negative effect on *Implicit grammar* in learners' written performance. This effect, significant at the .05 level, indicates that the more *Inappropriately solved* resolutions they produced during collaboration, the lower their *Implicit grammar* scores. The analysis provides support for the hypothesis that the numbers of different categories of *Types of resolution* episodes mediate learners' subsequent L2 written performance in terms of *Implicit grammar*.

The next section presents the discussion for the findings obtained in relation to Research Questions 4 and 5.

5.4 Discussion

The following discussion is guided by Research Questions 4 and 5, which concerned the effect of providing different degrees of linguistic assistance to the young ESL learners in the present study on various aspects of their oral and written output.

RQ4 For the audio-recorded group of children who work in pairs and receive linguistic assistance, do the numbers of interactional episodes differ between the Dyadic Enhanced Linguistic Assistance (DyadicEA) and Dyadic Basic Linguistic Assistance (DyadicBA) Groups?

Research Question 4 investigated whether the provision of varying degrees of linguistic assistance affected peer-mediated interaction, and if it did, through the detailed coding of learner dialogues, it sought to identify the specific characteristics of dyadic interaction that were influenced. This research question was motivated by the predictions made by Skehan's (1998) and Skehan and Foster's (1999, 2001) Trade-Off Hypothesis and Robinson's (2001a, 2001b, 2007a) Cognition Hypothesis. According to the Trade-Off Hypothesis, the provision of linguistic assistance may ease the cognitive processing load during task performance, and this may enable greater attention to linguistic accuracy during interaction. This means that the DyadicEA Group, with greater linguistic support given to them than that to the DyadicBA Group, may generate more interactional episodes that focus on linguistic forms. The Cognition Hypothesis, on the other hand, holds that it is the cognitive complexity of a task that drives L2 performance, and that increasing cognitive demands may lead to greater communicative demands during interaction. In this case, while linguistic assistance may facilitate task performance by easing linguistic demands, it may not reduce the cognitive complexity of the task; hence, the different degrees of linguistic assistance may have a similar effect on learners' L2 production during interaction. In other words, it can be expected that there will be no difference in the numbers of interactional episodes between the DyadicEA and DyadicBA Groups.

As seen in the results section (Section 5.2.1), the present study did not find any statistically significant relationships between the experimental manipulation of linguistic assistance (*Group*) and the content of peer discussions, specifically, *Focus of episodes* (subtypes of CREs and LREs) and *Types of resolution*. Here, the provision of varying degrees of linguistic assistance did not seem to influence the numbers of types of CREs and LREs, or the accuracy and appropriateness of the resolutions, generated by learners in the two groups during task performance. Thus, these findings do not appear to support the prediction of the Trade-Off Hypothesis, as there was no significant difference between the DyadicEA and DyadicBA Groups in the number of interactional episodes that focused on linguistic forms. Evidence of the DyadicEA Group devoting more attention to linguistic accuracy during interaction cannot be established. Instead, the statistical results appear to meet the prediction of Robinson's Cognition Hypothesis in that different degrees of linguistic assistance have similar effects on learners' discussions of linguistic forms and content during interaction. Taking the outcomes of the two predictions together, they could be interpreted thus: while increasing linguistic support may facilitate task performance by easing linguistic demands, it does not necessarily lead to learners directing greater attention to linguistic accuracy during peer interaction when there is no change in the level of task complexity. As demonstrated in Robinson's (2007b) study, which involved 42 Japanese L1 university learners of English completing in dyads three narrative tasks with varying degrees of intentional reasoning, there was more partial uptake of the linguistic input which was provided to the participants during task performance in the cognitively more demanding tasks than in the simpler ones. In the case of the present study, the cognitive demands of all the narrative tasks were kept consistent for the control and treatment groups, and this may have contributed to the similar focus on linguistic forms between the DyadicEA and DyadicBA Groups.

Interestingly, the English proficiency levels of these young learners influenced the content of peer interaction. This was demonstrated in the results of the Kruskal-Wallis test (Section 5.2.2), which found significant differences between *English proficiency level* and some of the categories of *Focus of episodes*, *Quality of response* (level of engagement) and *Types of resolution*. Simple

regression analyses further revealed significant associations between *English proficiency level* and three other measures from the same three categories of *Focus of episodes*, *Quality of response* and *Types of resolution: Sentence structure LREs, Elaborate, rephrasing episodes and Inappropriately solved resolutions*. Here, the interpretation of the results of the regression analyses should be treated with caution because only a small proportion of the variance could be explained by *English proficiency level*. Nonetheless, in terms of the subtypes of interactional episodes, learners of high *English proficiency level* were found to generate significantly more *Punctuation LREs* and were more likely to discuss the construction of English sentences during collaborative dialogue than learners from lower proficiency levels. This is consistent with Leeson's (2004) study, which investigated the effect of learner proficiency on the number, type (whether lexis- or form-based) and resolution of LREs. 42 university L2 Spanish learners were asked to perform a dictogloss task in dyads, and they were assigned, according to their Spanish proficiency, to one of three types of dyads: high-high, higher-lower, or low-low. As in the present study, Leeson coded the learner dialogue for subtypes of lexis-based LREs (e.g., word meaning, prepositions) and form-based LREs (e.g., subject-verb agreement, tense, word order). However, possibly due to the small amount of interactional data (comprising only 21 transcripts based on one task), his analysis using a split-plot design ANOVA revealed only the effect of the proficiency pairings on the production of the overall lexis- and form-based LREs. Leeson found that the high-high proficiency dyads generated significantly more form-based LREs than the higher-lower proficiency dyads and the low-low proficiency dyads. As with the present study, no significant differences were found in lexis-based LREs between the high-high and low-low proficiency dyads. Storch and Aldosari (2013) found similar results in their examination of learner dialogue of 30 adult Arabic L1 learners of English as a foreign language completing a short composition in dyads: the high-high proficiency dyads produced the greatest number of form-based LREs, followed by the higher-lower and low-low proficiency dyads. The researchers also added the category of mechanics-based LREs (which included punctuation and spelling) to their coding of learner dialogue, and they found that the high-high and higher-lower proficiency dyads generated more mechanics-based LREs than the low-low proficiency dyads during

collaborative dialogue. Given the small sample size, these comparisons were made based solely on descriptive statistics (percentages and means). The present study, however, with larger interactional data, has been able to identify the specific areas of form that the young learners in high proficiency dyads tended to discuss more of during mediated peer interaction than did those in lower proficiency dyads: *Punctuation LREs* and *Sentence structure LREs*.

In terms of *Quality of response* (level of engagement), learners of high *English proficiency level* in the present study generated significantly more *Limited, short direct response to show acknowledgement* episodes than those of middle *English proficiency level*. Interestingly, a post hoc analysis of the Kruskal-Wallis test showed that there was no significant difference in the production of the same episodes between learners of high and low *English proficiency levels*. This indicates that the level of engagement between partners in both high and low proficiency dyads was kept to a minimum when they responded to each other during task performance. However, learners of a higher level of English proficiency were also more likely to rephrase their task partner's responses or elaborate upon them (with *Elaborate, rephrasing* episodes) than those of a lower level of English proficiency. This is important for collaborative L2 learning, because, as Volet, Summers and Thurman (2009) suggest, a higher level of engagement, which, *inter alia*, involves elaboration, can lead to joint construction of meaningful knowledge and understanding. Storch (2008), in her study involving 22 adult ESL learners of diverse L1 backgrounds (such as Chinese, Korean, Japanese and Thai) working on a text reconstruction task in dyads, then individually, too points out that elaborate engagement (operationalised as instances of deliberation over language items) was more facilitative of L2 learning for both participants in a dyad than limited engagement (operationalised as instances of repetition, acknowledgement or no response). Barron (2003) compared the conversations of twelve Grade 6 learners working in triads to complete a series of mathematical problems, and she found that it was the ways in which learners responded to their partners' contribution, rather than the generation of ideas for solution, that affected the problem-solving outcomes. More successful groups were more likely to engage in their partners' ideas during conversation, and they often responded by accepting or elaborating

the proposals. Less successful groups tended not to capitalise on their partners' ideas and were more prone to ignore or reject proposals. However, this is not to say that the learners from a lower proficiency level in the present study did not engage in further discussion or elaboration of ideas at all. In fact, dyads from all three proficiency levels in the present study generated similar numbers of other episodes such as *Elaborate, with justification*, *Elaborate, with suggestion* and *Limited, repeating* in their responses; however, the two kinds of interaction *Elaborate, rephrasing* and *Limited, short direct response to show acknowledgement* stood out (statistically) between the learners of high and low *English proficiency levels*. While these two kinds of interaction may not determine the success of peer discussions *per se*, they provide insights into the possible different ways in which learners of various proficiency levels interact during a collaborative task. This interpretation, however, should be treated with caution, given that the significant result of the regression analysis showed *English proficiency level* could explain only a small proportion of the variance of *Elaborate, rephrasing* episodes.

For *Types of resolution*, learners of high *English proficiency level* in this study also produced significantly more *Appropriately solved* resolutions than those of low *English proficiency level*. By the same token, learners of lower level of English proficiency were more prone to produce *inappropriately solved* resolutions. The findings are line with those reported by Leeser (2004) (mentioned earlier in this section), who also found a similar trend that learners in higher proficiency levels correctly solved their LREs more often than those at lower levels. In fact, Leeser revealed that whereas the high-high proficiency dyads correctly resolved 88.16 per cent of their LREs, the higher-lower proficiency dyads yielded only 64.0 per cent of correctly resolved LREs, and the low-low proficiency dyads, 58.33 per cent. While Leeser's study clearly demonstrates that learner proficiency affects how successful dyads are at resolving their linguistic problems, the results of the present study further suggest that learner proficiency affects how successful dyads are at utilizing the provided linguistic assistance during mediated peer interaction, in order to overcome their linguistic difficulties. The high proficiency dyads in this study generated 81.26 per cent of correctly resolved CREs and LREs, whilst the middle

proficiency dyads produced 68.53 per cent, and the low proficiency dyads, 62.58 per cent, of appropriately solved resolutions. This could imply that learners of higher level of English proficiency may be able to draw on, and apply, the proffered linguistic assistance more effectively in their collaborative narrative tasks than those of lower level of English proficiency.

Importantly, results of the Mann-Whitney test (Section 5.2.1) revealed that the provision of varying degrees of linguistic assistance (*Group*) was significant in relation to four measures of dyadic learner interaction: *Mutual contribution*, *Indicating that something needs improvement or alteration*, *and working together to obtain solution*, *Explicit reference to linguistic assistance* and *Unresolved, leading to a request for outside intervention*. Learners in the DyadicEA Group were significantly more likely to contribute equally in a discussion, to indicate a linguistic problem and work together to obtain a solution, and to request help from the teacher or researcher, or to refer to a dictionary. On the other hand, during collaboration, learners in the DyadicBA Group referred to their lists of isolated words more often than learners in the DyadicEA Group referred to their lists of words or expressions. In addition, results based on the multiple regression analysis indicated that two particular types of peer assistance episode were significantly associated with *Group x English Proficiency Level*: *Proposing alternatives* and *Asking question to raise own awareness, understanding or knowledge of partner's meaning*. Learners with high English proficiency in the DyadicEA Group also tended to generate a greater number of *Proposing alternatives* and *Asking question to raise own awareness, understanding or knowledge of partner's meaning* episodes than those with lower English proficiency in the same group. The production of these episodes was lower for learners in the DyadicBA Group at each level of English proficiency. What can be seen here is that all these types of interaction are related to the nature of peer assistance, that is, the ways in which learners provided (e.g., *Mutual contribution*) or requested (e.g., *Unresolved, leading to a request for outside intervention*) help during task performance. This suggests that the provision of varying degrees of linguistic assistance may have an impact on how peer assistance (or other forms of assistance, such as peers referring to linguistic assistance, or asking the teacher for help) is given during task performance. In

particular, there is indication that opportunities to use enhanced linguistic assistance may facilitate mutual scaffolding in dyads.

One possible explanation for the influence of linguistic assistance on the nature of peer assistance is that the linguistic support offers learners a list of potentially relevant words or expressions that they can use, to perform a task that requires language which is beyond their current level of L2 proficiency. Learners can select any of these words or expressions from the written support to help them convey their intended meanings in the L2. In this way, learners are offered the opportunity to obtain developmentally appropriate assistance for themselves (for, even when proficiency-matched learners in a dyad are at the same actual developmental stage, they may require different assistance to progress in their L2) and to utilize the linguistic support to construct output with their peers through negotiated interaction. In this respect, the written assistance may be deployed within the learners' zone of proximal development (ZPD), and it serves as a mediating tool for learners to develop their thinking and the construction of their story, and as a resource for them to produce output in the L2 and to attend to linguistic forms. In other words, because learners, individually, have access to the task-relevant, ZPD-oriented information, they are able to pool appropriate linguistic resources during collaborative dialogue, to co-construct their understanding and knowledge of the L2. It is plausible, then, that linguistic assistance has the potential not only to enable expertise to emerge in a dyad, but also to raise the level of *equality* (Damon & Phelps, 1989) of contribution, with both partners actively providing and receiving information. Depending on how much expertise a learner has gained from the linguistic assistance and how much contribution he or she generates in a dyad, this may affect the nature of peer assistance during dialogic interaction. If, as suggested by several researchers (e.g., Fernández Dobao, 2012a; Kim & McDonough, 2008; Watanabe & Swain, 2008), learner proficiency can affect the nature of peer collaboration, then, by the same logic, increasing learner expertise (within their ZPDs) during task may influence the extent to which they reflect on their own and their partner's use of the target language, or accept each other's linguistic input and feedback. However, this is not to say that individual learners readily gain expertise on the

information they have extracted from the given linguistic assistance; in fact, what they have selected may be brought forward for discussion during interaction, and this may lead to further hypothesis testing and joint consolidation of knowledge for both partners. In this way, linguistic assistance may result in collective expertise to emerge in a dyad.

With enhanced linguistic assistance, the DyadicEA Group was given more help in the form of paragraphs of text than was the DyadicBA Group. This means that they had access to more semantic and linguistic information than their counterparts who received isolated content words and verbs as basic linguistic assistance. This may have afforded individual learners in each dyad in the DyadicEA Group the linguistic resources to appropriate additional knowledge and to advance their own expertise (on the basis of their needs and choice within their ZPD), which they could use in the collaborative dialogue to construct new understanding. In this way, enhanced linguistic assistance may have enabled members within a dyad to achieve a balanced contribution to the discussion as both partners now shared a common task-relevant resource from which they could extract information and provide useful input and feedback to their partner. At the same time, they also shared a common mediating tool to manage task complexity during L2 production; hence, this may have resulted in the generation of a significantly greater number of *Mutual contribution* and *Indicating that something needs improvement or alteration, and working together to obtain solution* episodes in the DyadicEA Group than in the DyadicBA Group. The opportunity for both learners in a dyad to verbalize their knowledge and thinking is crucial for learning. Fawcett and Garton (2005), in their study involving 100 Year 2 learners (ages 6 and 7) performing a card sorting activity either individually or in dyads, found that lower ability learners who were instructed to verbalize their ideas to their higher ability partners during task showed significantly greater gains in their posttest performance than those in lower-higher ability dyads where there was minimal verbal interaction. Here, verbalization helps learners regulate their cognitive processes (Vygotsky, 1987, p. 251). In another study, based on the think aloud data of two Mandarin L1 adult ESL learners performing a three-stage individual L2 writing task, Qi and Lapkin (2001) compared the quality of noticing that occurred in the composing and

reformulation stages. The researchers observed that during the reformulation stage, noticing which included verbalization of reasons resulted in improvement in the final written text, whereas noticing without understanding or without articulation of clear reasons tended to lead to no change in the text or changes that did not improve the text. Thus, for the present study, with enhanced linguistic assistance providing more support for individual learners to articulate their ideas and linguistic knowledge in a dyad than does basic linguistic assistance, there may be more opportunities for mutual scaffolding to occur in peer interaction. In addition, in the DyadicEA Group, higher English proficiency learners were found to be more inclined to generate more *Proposing alternatives* and *Asking question to raise own awareness, understanding or knowledge of partner's meaning* episodes than lower proficiency learners. Here, it appears that enhanced linguistic assistance may allow more opportunities than basic linguistic assistance for young learners with a higher level of L2 English proficiency to suggest alternative solutions, in order to build on or refine each other's contribution, and to ask questions, in order to promote their own understanding of the intended message or linguistic information rather than to prompt for error correction.

One unexpected difference between the DyadicEA and DyadicBA Groups is that the latter, rather than the former, was found to refer to the linguistic assistance significantly more frequently during task performance. Given the greater amount of information contained in enhanced linguistic assistance for the DyadicEA Group, it seemed reasonable to assume that learners would constantly make reference to the written support during discussion; instead, it was the DyadicBA Group who explicitly referred to their lists of isolated words more often than did the DyadicEA Group. Closer inspection of the interactional episodes revealed that when the learners referred to basic linguistic assistance, a large proportion of those LREs concerned lexical choice and spelling. This could suggest that basic linguistic assistance, with the way it presents the written support to young learners (in the form of isolated content words and verbs), can focus their attention on lexis because it has a clear outline of what L2 help is available to them. The other finding that the DyadicEA Group was significantly more likely to request help from the

teacher or researcher, or to refer to a dictionary than the DyadicBA Group further suggests that, when using enhanced linguistic assistance, learners have to cope with more information, and this may trigger more linguistic problems than solutions between learners in a dyad (depending on their ZPD). This has a double-edged effect on learners: it may create an interactional space which facilitates mutual scaffolding, as seen in the results discussed earlier, or, as in this case, it may compel learners to seek for assistance from other sources with a higher level of linguistic expertise, to overcome their L2 difficulties.

The findings of this study that the provision of varying degrees of linguistic assistance influences the nature of peer assistance during interaction, and that learners' English proficiency impacts specific characteristics of the content of peer discussions, are interesting because they shed some light on the conflicting results of previous studies on the effect of learner proficiency and pair dynamics on L2 learning opportunities during collaborative dialogue. On the one hand, several studies, including those cited earlier in this section, have shown that learner proficiency affects L2 learning opportunities in peer interaction in terms of the occurrence and resolution of LREs and the linguistic focus during collaborative dialogue. For instance, Williams (2001), whose analysis was based on 65 hours of learner interactions between four proficiency-matched adult ESL dyads, found that higher proficiency learners tended to generate a greater number of LREs and to focus more on form-based LREs than lower proficiency learners. On the other hand, Storch (2001, 2002, 2004) suggests that pair dynamics in peer interaction, often examined in terms of learners' provision of assistance, contribution of information and control over decision making, may have a stronger effect on L2 learning opportunities than learner proficiency. Storch proposes four patterns of interaction: collaborative, dominant/dominant, dominant/passive and expert/novice. Collaborative and expert/novice relationships, which are likely to demonstrate more frequent peer assistance and higher occurrences of co-construction of knowledge, are considered to be more conducive to L2 learning than dominant/dominant and dominant/passive patterns of interaction, which tend to be associated with unequal control over decision making and low-level engagement with partners' contributions. This was observed in Watanabe and

Swain's (2007) small-scale study, which examined the production of LREs of four learners interacting alternatively with four higher and four lower proficiency learners during a three-stage L2 writing task (which comprised a joint-writing pretest stage, a reformulation-and-noticing stage, and an individual-writing posttest stage). The twelve participants were Japanese L1 university ESL learners. The researchers found that pair dynamics, rather than proficiency, could better explain the frequency of LREs produced by dyads and the evidence of L2 learning based on individual gains from pretest to posttest: dyads who displayed collaborative or expert/novice pattern of interaction produced more LREs and showed greater gains in the posttest than those who demonstrated dominant/passive or expert/passive pattern of interaction.

Based on the present study, then, two insights can be obtained. The first insight concerns the role of learner proficiency in peer interaction. This study suggests that English proficiency of young learners has an effect on the content of peer interaction, and this corroborates results of studies by Leeson (2004) and Williams (2001), both of which, as mentioned previously, were based on data that examined LREs in terms occurrence, type and/or resolution. Suzuki and Itagaki (2009) also found an effect of learner proficiency in their study, which focused on how 141 low-intermediate and high-intermediate Japanese L1 learners of English engaged in collaborative dialogue when completing two different types of discrete grammar exercises. They found that, compared to the high-intermediate learners, the low-intermediate learners attended less to L2 linguistic forms, regardless of the type of exercise. Even studies which have attributed learners' dyadic performance during task to pair dynamics acknowledged the influence of learner proficiency on the content of peer interaction (e.g., Kim & McDonough, 2008; Storch & Aldosari, 2013; Watanabe & Swain, 2007).

At the same time, this study found that English proficiency of young learners does not play an important role in determining the nature of peer assistance. This is consistent with the results of Fernández Dobao's (2012a) study, which was conducted with 24 adult Spanish L1 intermediate and advanced learners of English as a foreign language and eight adult native speakers (NSs) of English, to examine the impact of proficiency and pair dynamics on learners' production of lexis-

based LREs during collaborative dialogue. The participants were assigned to one of four types of dyads: intermediate learner-learner, advanced learner-learner, intermediate learner-NS and advanced learner-NS. In terms of proficiency, the researcher found that collaborative dialogue between learner-NS dyads contained significantly more lexis-based LREs and correctly resolved LREs than that between learner-learner dyads, and she reasons that, compared to the intermediate and advanced learners, NSs had a higher level of linguistic expertise which enabled them to provide more frequent assistance to their task partners. In terms of peer assistance, the researcher analysed the oral interaction of two dyads (an advanced learner-NS dyad and an intermediate learner-learner dyad) qualitatively, and concluded that a higher proficient interlocutor does not necessarily provide collaborative assistance to a lower proficient partner, and that learner goals and level of involvement in the task may have a greater impact on the nature of peer interaction than the proficiency of the dyad. The present study, with 30 dyads, was able to show statistically that learners' L2 proficiency indeed did not have a significant effect on the nature of peer assistance.

The second insight concerns the significance of pair dynamics in peer-mediated interaction. While there is no question that pair dynamics affect dialogic interaction, conflict arises when research queries whether learner proficiency or pair dynamics has a greater impact on peer interaction and subsequently on L2 learning opportunities. Many studies have examined in detail the dyadic patterns of interaction of a small sample of learners using qualitative analysis (e.g., Fernández Dobao, 2012a; Kowal & Swain, 1994; Storch, 2002, 2004; Watanabe & Swain, 2007, 2008), and thus far, none has confirmed statistically whether it is learner proficiency or pair dynamics which has a greater effect on peer interaction and L2 learning. Nonetheless, I would argue that the comparison between learner proficiency and pair dynamics is of little pedagogic value to classroom practitioners because both influence different aspects of peer interaction: proficiency impacts the content of peer discussions, and pair dynamics affects the nature of peer assistance, and it is important to have both, linguistic expertise and some level of collaboration (pair dynamics), when working in a dyad, to promote L2 learning opportunities. Therefore, a

more useful question is whether learner proficiency and/or pair dynamics in a dyad can be enhanced to facilitate L2 learning.

This is what the present study found: by varying the degree of linguistic assistance given to young ESL learners in a collaborative narrative task, the nature of peer assistance may be influenced during dyadic interaction. In particular, opportunities to use enhanced linguistic assistance may facilitate mutual scaffolding in dyads. This is possible because, with enhanced linguistic assistance, learners are provided with paragraphs of text from which they can mine semantic and linguistic information that they need for their discussion and narration. This can potentially increase individual and collective linguistic expertise (within their ZPD) during task performance, which, in turn, may alter the pair dynamics such that there is more collaboration between peers. Kim and McDonough (2008) too found that a learner's role in a dyadic relationship is not fixed, and it is possible to change the pair dynamics in a dyad. The focus of their study, however, was slightly different from that of the present study: they were investigating the relationship between learner proficiency and pair dynamics, and not between the provision of linguistic support and how peer-mediated assistance was proffered. Their study involved eight adult intermediate Korean L2 learners interacting with eight learners of similar Korean L2 proficiency, and with another eight learners of advanced Korean L2 proficiency, to complete two dictogloss tasks. The learners were from various L1 backgrounds such as Chinese, Japanese and Ukrainian. The researchers found that the eight intermediate learners produced a significantly greater frequency of lexis-based LREs, and resolved more LREs correctly, when they collaborated with an advanced learner than with an intermediate learner. In terms of the pair dynamics, the researcher observed that a learner's role as a collaborative, dominant or passive interlocutor may change depending on the proficiency level of their partner in a dyad. Their results showed two learners who had been dominant with an intermediate partner were collaborative with an advanced partner, while another two learners who had been collaborative with an intermediate partner became passive when paired with an advanced partner. Apparently, when learners perceived their own L2 linguistic knowledge to be inferior to that of their partner,

they tended to relinquish control over the task and to adopt a less dominant role. It is possible, then, that, by increasing a learner's level of linguistic expertise (or by changing a learner's perception of his or her level of expertise), the patterns of interaction in a dyad can be altered, as demonstrated in the present study. Enhanced linguistic assistance, which offers more L2 support to learners during collaborative dialogue, may be more conducive to inducing peer collaboration. It should be clarified here that, in the case of the present study, a learner's linguistic expertise, which is utilized during a particular task, refers to the learner's task-relevant linguistic knowledge that may have been obtained prior to or during task (either from their lists of selected written linguistic assistance or from the joint construction of knowledge during collaborative dialogue), rather than to the learner's linguistic knowledge that has been acquired and is already part of his or her L2 proficiency.

In sum, the answer to Research Question 4 is threefold. First, there were no significant differences in the numbers of CREs and LREs subtypes between the DyadicEA and DyadicBA Groups. This means that the provision of enhanced linguistic assistance did not result in learners attending more to word choice or grammatical forms than that of basic linguistic assistance. These results provide support for the Cognition Hypothesis, in that enhanced and basic linguistic assistance have a similar effect on learners' L2 production during interaction: while both may facilitate task performance by easing linguistic demands, the different degrees of written support do not influence cognitive complexity of the task. Second, turning to *English proficiency level*, statistical significant relationships were found for certain subtypes of LREs and resolution of interactional episodes, and this suggests that learners' L2 proficiency influences the content of peer discussions. Third, the provision of varying degrees of linguistic assistance appears to affect how peer-mediated assistance is proffered, with enhanced linguistic assistance encouraging more collaborative efforts between peers than basic linguistic assistance. This means that it can potentially alter pair dynamics, which is an important consideration for promoting L2 learning opportunities.

RQ5 Does the quantity of episodes of different interactional categories produced during dyadic collaboration mediate subsequent L2 written performance?

Research Question 5 addressed the relationship between numbers of instances of different categories of peer interaction, varying degrees of linguistic assistance and subsequent individual L2 written performance. Specifically, it examined the contribution of quantities of particular kinds of peer interaction in mediating various aspects of individual written performance at immediate posttest, that is, after eight weeks of engaging the participants in collaborative tasks with enhanced or basic linguistic assistance. In this way, the present study enquired into the eventual effect of learner engagement in (other-regulated) collaborative dialogue and written linguistic assistance on (self-regulated) individual L2 narrative writing.

Results of the multiple regression analyses showed that, after controlling for prior attainment, the quantity of different types of peer interaction influences the subsequent individual writing of young learners in two ways. The first way concerns the direct impact of the quantity of different types of peer interaction on the written *Vocabulary and spelling* performance of these young learners through *Focus of episodes* and *Types of resolution* in their discussion. Here, the provision of varying degrees of linguistic assistance does not appear to have an effect on *Vocabulary and spelling* in the learners' L2 narrative writing, as attested to by the lack of statistically significant associations between *Group* and the written performance at immediate posttest. For *Focus of episodes*, which explained 33 per cent of the variance in learners' *Vocabulary and spelling* performance, the numbers of *Idea-based CREs*, *Structure-based CREs*, *Connectives LREs* and *Punctuation LREs* generated in collaborative dialogue between dyads were found to be significantly associated with learner performance. Where there were more *Idea-based CREs*, *Connectives LREs* and *Punctuation LREs* in peer interactions, the *Vocabulary and spelling* scores were higher in learners' subsequent writings. What was unexpected here was the finding that the numbers of *Lexical LREs* and *Spelling LREs* did not explain unique variance in subsequent individual written *Vocabulary and spelling* performance; instead, it was learners' discussions on the content of their stories and on what linking words and punctuation marks to

use that had helped their *Vocabulary and spelling* performance. This highlights not only the wide range of grammatical and lexical choices that learners deliberated over during narrative tasks, but also the interrelatedness of these choices in determining the quality of the L2 production. In other words, there may not necessarily be a one-to-one correspondence between specific subtypes of CREs and LREs and their impact on particular aspects of L2 writing, such as the production of *Lexical LREs* to determine the quality of vocabulary performance, or form-based LREs to influence written grammar performance, as found in such form-focused tasks as dictogloss and text reconstruction tasks (e.g., Alegria de la Colina & Garcia Mayo, 2007; Garcia Mayo, 2002; Kim, 2008; Storch, 1998). More likely, in narrative writing, it is a combination of various characteristics of CREs and/or LREs that affects different aspects of writing. In the case of the present study, when learners negotiated their understanding of the generated ideas in *Idea-based CREs*, or deliberated over what connective devices to use to enhance cohesion of the story, and relevant lexical items were used in the dialogic exchange, although these were not the focus of their discussion, the use of the items may have reinforced individual learners' vocabulary, leading to an improvement in their subsequent L2 written production at immediate posttest.

Interestingly, the result also revealed that the greater the number of *Structure-based CREs* dyads generated in collaborative dialogue, the lower their *Vocabulary and spelling* scores. This could suggest that dialogues devoted to developing the structure of a narrative text (an introduction, followed by a series of events, a complication and a resolution) and organising the text into paragraphs may divert learners' attention from focusing on vocabulary during task performance, resulting in a lower vocabulary performance at immediate posttest. In other words, given the limited L2 resources of the young learners in the present study, they may not have the capability to retain the lexis in their memory when their attention is drawn to higher-order writing processes such as organising the story structure. This is particularly true if learners are still engaged in the effortful process of managing lexis that is at the low-frequency or leading edge of their ability during task performance. Thus, as shown in this study, learners who focused less on story structure during dyadic interaction were likely to obtain higher *Vocabulary and spelling* scores.

This result provides support for the assumption that learner attention and memory are limited in capacity, and for learners whose second language may have not been proceduralized, they may not be able to attend optimally to both higher- and lower-order writing processes (McCutchen, 1996, 2000; McCutchen, et al., 1994). For *Types of resolution*, which accounted for 20 per cent of the variance in learners' *Vocabulary and spelling* performance, only the number of episodes related to *Inappropriately solved* resolutions explained unique variance in individual written performance. Not surprisingly, learners who produced fewer *Inappropriately solved* resolutions during collaboration were likely to score higher in *Vocabulary and spelling*. This suggests that the grammatical and lexical choices which learners deliberated over during peer interaction were used in learners' subsequent individual production, indicating instances of transfer of knowledge (Storch, 2002). This result constitutes support for the usefulness of collaborative dialogue in affording learning opportunities for L2 learners.

The second way in which peer interaction influences the individual L2 writing of young learners in the DyadicEA and DyadicBA Groups is through the appropriation of linguistic assistance. Put another way, linguistic assistance affects individual L2 written performance indirectly through dyadic collaboration. Here, the quantity of different types of peer interaction appears an additive factor to linguistic assistance, facilitating learners' subsequent performance on *Quality of ideas*, *Story shape and structure* and *Implicit grammar* at immediate posttest. For instance, learners' *Focus of episodes*, i.e., the specific aspect of language or story content that learners are focusing on during discussion, accounted for 23 per cent of the variance in their *Quality of ideas* performance, with the number of *Punctuation LREs* generated within the DyadicEA and DyadicBA Groups displaying a statistically significant impact on individual written performance. The finding showed that the more *Punctuation LREs* dyads generated in collaborative dialogue, the higher the *Quality of ideas* scores in their subsequent L2 writing. (This unexpected result will be discussed later in conjunction with other components of writing.) In addition, the quantity of episodes of different types of *Focus of episodes* explained 34 per cent of the variance in learners' *Story shape and structure* performance, with the numbers of *Idea-based CREs*, *Lexical LREs*,

Spelling LREs and *Punctuation LREs* in the two treatment conditions significantly associated with learner performance. It was found that the more *Idea-based CREs*, *Lexical LREs* and *Punctuation LREs* learners included in their discussions, the higher their scores for *Story shape and structure* at immediate posttest. It appears that learner talk related to content generation, which may involve elaborating, synthesising and sequencing ideas, and to lexical choice may help the young learners to view the written language as an object that has to be organised and crafted in a particular way, in order to convey their meanings coherently, and this may have subsequently enhanced their *Story shape and structure* performance. With the DyadicEA Group significantly more likely to achieve higher scores than the DyadicBA Group, this also suggests that the enhanced linguistic assistance provided to the DyadicEA Group may have been more helpful at associating *Idea-based CREs*, *Lexical LREs* and *Punctuation LREs* to *Story shape and structure* during peer interaction than the basic linguistic assistance provided to the DyadicBA Group.

However, this study also found that the higher the number of *Spelling LREs* learners generated in collaborative dialogue, the lower their individual *Story shape and structure* scores. This suggests that, given their stretched attentional capacities, these young ESL learners may have focused on retrieving the correct spelling of words during dyadic interaction at the expense of attending to the structure of the story, leading to a lower *Story shape and structure* performance at immediate posttest. A similar result was obtained in a study by Connelly et al. (2012), which compared the L1 writing quality of 99 young learners (age 11) in three matched groups: 33 learners with specific language impairment, 33 learners matched for chronological age, and 33 younger learners matched for language ability. Writing competence was measured using written language bursts, or the length of strings of words produced by learners in the written form between pauses of at least two seconds. All learners were asked to complete a 5-minute writing task individually. Of relevance to the present study is their finding that spelling, for all three groups, is significantly associated with the length of written language bursts: poor spelling leads to shorter bursts and longer pauses between each burst, and this affects writing fluency and impairs text quality. In the

present study, where spelling still placed a high processing demand on the cognitive resources of some learners in dyads, resulting in them devoting much of their effort on spelling (i.e., producing more *Spelling LREs*) during peer interaction, these learners may have generated shorter written language bursts and longer pauses between each burst when composing, as compared to those who produced fewer *Spelling LREs*. With slower writing fluency, there may be less time for them to focus on the higher-level writing process of organising the structure of their story.

Compared to *Quality of ideas* and *Story shape and structure*, a smaller impact of the production of different types of *Focus of episodes* was detected in learners' *Implicit grammar* performance, accounting for 11 per cent of the variance. Here, only the number of *Punctuation LREs* produced within the DyadicEA and DyadicBA Groups explained unique variance in individual written performance: the greater the number of *Punctuation LREs* in peer interaction, the higher the *Implicit grammar* scores in their subsequent L2 writing. It is interesting that the quantity of *Punctuation LREs* was significantly associated with the *Quality of ideas*, *Story shape and structure* and *Implicit grammar* components of narrative writing. While it is tempting to interpret this result as learners who focused more on the appropriate use of punctuation during dyadic interaction were likely to perform better at various components of L2 writing, it is also possible that because these learners already possessed control over the content, organisation and linguistic quality of their compositions, they could afford to focus on punctuation in their collaborative dialogues. In other words, these learners were good writers and were likely to achieve high *Quality of ideas*, *Story shape and structure* and *Implicit grammar* scores at immediate posttest. This reinforces one of the findings for Research Question 4, which showed that the production of *Punctuation LREs* was related to *English proficiency level*, with high proficiency learners generating significantly more *Punctuation LREs* than their low proficiency counterparts.

The quantity of episodes of different types of *Nature of peer assistance* within dyads during collaboration is a mediating variable between the provision of linguistic assistance and learners' subsequent individual written performance on *Story shape and structure* (accounting for 24 per

cent of the variance) and *Implicit grammar* (accounting for 17 per cent of the variance). Specifically, the numbers of *Correcting* and *Explaining/Clarifying* episodes were significantly associated with learners' *Story shape and structure* performance. These two fall under the category of *active peer tutoring* (Chapter 3, Section 3.8.2.3), in which learners offer solutions, definitions, corrections or explanations directly to their task partners. Findings revealed that a higher production of *Correcting* during interaction was significantly associated with lower *Story shape and structure* scores in the immediate narrative writing posttest. In contrast, a higher production of *Explaining/Clarifying* in collaborative dialogues was significantly associated with better *Story shape and structure* performance. Two explanations are possible here. The first concerns the quality of learner talk. Whereas *Correcting* involves the provision of corrective feedback in response to what a learner perceives as an erroneous or inappropriate utterance given by the task partner, usually without elaboration, *Explaining/Clarifying* incorporates justification or clarification for the provision of an utterance, feedback or a suggestion for an alternative formulation. The lack of elaboration in *Correcting* could mean that the feedback that was provided during interaction may have not been fully understood or internalised by the task partner, particularly when the discussion concerned L2 linguistic knowledge that was beyond his or her developmental stage. In other words, as peer assistance, *Correcting* may not have been sufficient for these young ESL learners to create or restructure their own linguistic knowledge. As a result, the effect of providing corrective feedback without further elaboration, if any, may not have carried over to subsequent individual writing at immediate posttest. Conversely, *Explaining/Clarifying*, with explicit reasoning, affords the task partner time and extended information to process the feedback or suggestion. In this way, learners may receive developmentally appropriate assistance, and are more likely to understand and internalise the content of the discussion, as compared to *Correcting*. Furthermore, for learners who verbalise their knowledge and thinking in the process of explaining or clarifying to their partner, they may reflect on and further develop their own understanding of the issue at hand. Such verbalisation, as shown in a number of studies discussed earlier, promotes learning (e.g., Barron, 2003; Fawcett

& Garton, 2005; Mercer, 2008; Qi & Lapkin, 2001), or in the case of the present study, it contributes uniquely to *Story shape and structure*.

The second plausible explanation for the significant associations between the numbers of *Correcting* and *Explaining/Clarifying* episodes and learners' *Story shape and structure* performance concerns the quality of interaction, or the way in which learners engage their partners in discussion during peer assistance. For *Correcting*, based on the interactional data in this study, when learners provided corrective feedback to their partners, their response was usually not explored further, either because the quick solution was understood and accepted or was accepted with indifference (without reflecting further upon their own ideas), or because the partners' request for further clarification or explanation was not taken up by the learners. In other words, there was an absence of critical engagement between peers to understand or explore the response more thoroughly in *Correcting*. Where comprehension of corrective feedback was not fully achieved and these learners did not engage further with each other's contributions, they were unlikely to be successful in constructing L2 knowledge together. Moreover, in using the *Correcting* episodes, learners were, in effect, assessing what their partners had constructed, and in doing so, they might be implicitly devaluing their partners' contribution. This might not be readily accepted by the partners. Consequently, as shown in the finding of this study, a higher production of *Correcting* during interaction did not lead to better subsequent individual *Story shape and structure* performance. On the other hand, for *Explaining/Clarifying*, learners were challenged by their partners, in an effort to understand their thinking, to provide an explanation or clarification for their contribution. In this way, not only were they pushed to make their thoughts and reasoning more explicit, but they were also made accountable for their responses, and this may have prompted them to monitor their own and their peers' level of understanding and L2 knowledge carefully. In many cases, learners also volunteered an explanation following their initial utterance, in order to coordinate their partners' thinking and knowledge with their own. Such critical engagement with each other's thinking in *Explaining/Clarifying* evokes joint focus of attention during discussion, potentially making the subject of conversation, be it on

lexical items or grammatical structures, become more salient, and this may create a context for in-depth processing of linguistic information. As noted in several studies cited earlier, such as Barron (2003) and Swain and Lapkin (1998), the creation of such an interactional space, which allows learners to verbalise their linguistic problems and understanding, fosters co-construction of meaningful L2 knowledge and consolidation of learning. Thus, as indicated in the present study, compared to *Correcting, Explaining/Clarifying* helps learners to perform better in subsequent individual narrative writing tasks.

In addition, this study found that the numbers of *Proposing alternatives* and *Providing approval* episodes produced during interaction mediated learners' *Implicit grammar* performance: dyads who generated a greater number of *Proposing alternatives* and *Providing approval* in peer collaboration obtained higher scores at *Implicit grammar* in their subsequent writing. *Proposing alternatives* is categorised as *active peer tutoring*, and through this form of peer assistance, learners offer suggestions of alternative ideas, words, grammatical forms or sentences when working through a linguistic problem together. *Providing approval*, on the other hand, is categorised as *passive peer tutoring* (Chapter 3, Section 3.8.2.3), which means that learners do not provide solutions or explanations directly to their task partners. Here, learners acknowledge their partners' question or comment, and they may also show agreement in response to their partners' enquiry, but they do not provide further information or explanation. What is striking in this finding is the revelation that not all characteristics of constructive peer interaction necessarily involve explicit reasoning, argument for or justification of learners' viewpoints, as put forward by Mercer and Littleton (2007) in their support for *exploratory talk*, or talk in which learners critically explore and clarify each other's ideas. Instead, in the case of the present study, with the support of written linguistic assistance, the young participants provided confirmation, and possibly assurance, for the choices the partner made through *Providing approval*, and offered suggestions about choices of expression and linguistic structures through *Proposing alternatives*. These two interaction types show learners considering, and acknowledging, their partners' contributions, even though they might want to extend and modify them. Here, learners

were engaged in the type of collaborative discourse similar to that found in the qualitative interactional data of 24 English L1 young learners (ages 7 to 9) working in dyads on a narrative task in Vass et al.'s (2008) study: peers tend to share and build on each other's ideas, rather than to argue for or justify their viewpoints, during collaborative writing. Importantly, through *Providing approval* and *Proposing alternatives*, there was learner engagement, and peers were able to provide one another with assistance that was attuned to their needs and developmental stage. This is crucial for promoting opportunities for L2 learning, as shown in Brooks and Swain's (2009) study. Examining instances of languaging in peer interaction among four female adult Japanese and Korean L1 learners of L2 English working in dyads on a written narrative task, the researchers found that the most effective source of expertise to bring about improvement on the individual final drafts (served as a posttest) was the peers, rather than the reformulations of learners' original stories, and interactions with one of the researchers in the augmented stimulated recall session (where learners could request help from the researcher). Whereas learners were able to maintain in their posttest a high number of correctly solved resolutions that were formulated with their partner during the initial writing task, many of the linguistic problems that were further discussed and resolved with the aid of the reformulation or researcher reappeared in the individual final drafts. Results of the present study and those of Brooks and Swain thus suggest that what creates opportunities for L2 learning is not necessarily the availability of comprehensive assistance or expertise, but rather the accessibility of comprehensible assistance or expertise that is provided within the ZPDs of learners.

Notably, the finding that active and passive peer tutoring mediated learners' written grammar performance highlighted the benefit of asymmetric dyadic interaction (with one learner assuming or being afforded the role of an expert and providing some form of linguistic knowledge to a partner during an exchange) in facilitating L2 writing. This interpretation, however, needs to be treated with caution because the significant result of the regression analysis showed that only a small proportion (i.e., 17 per cent) of the variance of learners' *Implicit grammar* performance could be explained by the quantity of episodes related to the different categories of *Nature of*

peer assistance. Nonetheless, there was no significant association between *Implicit grammar* performance and the number of episodes of the *mutual scaffolding* category of peer assistance (Chapter 3, Section 3.8.2.3), where there is no clear expert during an exchange and both learners in a dyad contribute to and utilise each other's linguistic resources as they jointly solve a problem. In other words, there was no evidence to show that *mutual scaffolding*, or symmetric dyadic interaction, helped learners in subsequent individual narrative writing tasks. At first blush, these results may appear to provide only partial support for the findings of Storch (2002, 2004) and Watanabe and Swain (2007), which showed that collaborative and expert/novice patterns of dyadic interaction were more conducive to L2 learning than dominant/dominant, dominant/passive and expert/passive patterns of interaction. This is because in the present study, there was no indication that *mutual scaffolding*, or in Storch's term, collaborative pattern of interaction, mediated learners' grammar performance. However, it is important to bear in mind that this study differs from the previous research in that it examined closely instances of expertise shifts between learners and their engagement within each task, instead of the overall dyadic relationships. For instance, as observed in the transcripts of the audio-recorded 30 dyads in the present study and in Ohta's (2001) interactional data involving seven adult learners of Japanese as a foreign language, even for a collaborative dyad, there may be instances of asymmetric dyadic interaction, with one learner taking on, instead of sharing, the role of expert. Each instance was explored in the present study, in order to determine whether dyads employed *active peer tutoring*, *passive peer tutoring* or *mutual scaffolding* form of peer assistance for a particular interactional episode. Due to the dynamic nature of peer assistance, such close inspection is necessary, particularly when the data involve examining learner dialogue over an extended period of time, during which there may be constant changes in the expert-novice role and in learner engagement with the task at hand, depending on, *inter alia*, their L2 resources, their familiarity with various narrative topics, and their increasing ability to retrieve relevant information from the proffered linguistic assistance as they encountered more of the similar lessons. As a result, this study found that instances of *active peer tutoring* and *passive peer tutoring* rather than *mutual scaffolding* were more likely to mediate learners' subsequent

individual L2 written production. While this does not at all imply that collaborative dyadic relationship is not conducive to L2 learning, as explained earlier that a collaborative dyad may at times employ symmetric or asymmetric interaction, it strongly suggests the need for peers to be able to provide some form of expertise, or *peer tutoring*, during collaborative dialogue, to enable construction of knowledge, in order for them to progress in their L2 performance. This means that when both learners in a dyad have to work through a problem and there is no clear expert for that particular interactional episode, the exchange may not necessarily help young ESL learners to generate the level of co-constructed L2 knowledge needed to enhance their individual performance.

The last characteristic of interaction that mediated subsequent L2 written performance is the quantity of episodes of different categories of *Types of resolution*, which accounted for 15 per cent of the variance in learners' *Implicit grammar* performance. Specifically, the numbers of *Appropriately solved* and *Inappropriately solved* resolutions generated in collaborative dialogue between dyads were found to be significantly associated with learner performance. As expected, the greater the number of *Appropriately solved* resolutions learners produced in their discussions, the higher their scores for *Implicit grammar* at immediate posttest. By the same token, the higher the number of *Inappropriately solved* resolutions in peer interaction, the lower their *Implicit grammar* scores. This is consistent with the findings of Fernández Dobao (2012b), who compared the narrative writing performance of 111 adult English L1 learners of Spanish as a foreign language working in groups of four (N = 60), in dyads (N = 30) and individually (N = 21), and found that the texts produced by groups were significantly more accurate than those written by dyads and individuals. The researcher reasons that this was because groups generated significantly more discussions on language, and they were more successful at solving the linguistic problems than dyads. In other words, there was immediate incorporation of feedback by learners, with appropriately solved resolutions produced during peer interaction impacting positively on the accuracy of the written outcome. The present study has gone a step further and demonstrated that the production of appropriately and inappropriately resolved solutions in

mediated peer interaction influences learners' individual L2 grammar performance in their subsequent writing. Nonetheless, some caution of this interpretation is in order, given that the numbers of episodes of the various categories of *Types of resolution* explained only a small proportion of the variance of learner performance in the multiple regression analysis.

By way of conclusion, five main ideas can be emphasised in relation to Research Question 5.

First, there are two ways in which the quantity of different types of peer interaction influences various aspects of individual L2 writing of young learners: it has a direct impact on learners' subsequent *Vocabulary and spelling* performance, and it serves as a mediating variable between the provision of linguistic assistance and learners' performance on *Quality of ideas, Story shape and structure* and *Implicit grammar*. Results of the multiple regression analyses showed that the quantity of episodes of the three interactional categories found to mediate subsequent L2 written performance are *Focus of episodes, Nature of peer assistance* and *Types of resolution*. Second, in narrative writing, there may not be a clear one-to-one association between learners' discussion of a specific linguistic problem (*Focus of episodes*) and the effect the discussion may have on the related aspect of writing. Consequently, as shown in the present study, deliberation over the choice of connective devices, for instance, affected the overall vocabulary, rather than grammatical, performance in learners' individual writing. Third, for learners with limited L2 resources, it may be difficult for them to attend simultaneously to both higher- and lower-order writing processes, given their limited memory and attentional capacity. This was highlighted in the findings showing significant negative associations between the number of *Structure-based CREs* and *Vocabulary and spelling*, and between the number of *Spelling LREs* and *Story shape and structure*. Fourth, in terms of *Nature of peer assistance*, not all assistance offered by peers during collaborative dialogue facilitates subsequent individual written performance. Failure to internalise the linguistic support received from their task partners could be due to a lack of sufficient information to process the feedback or suggestion, or an absence of critical engagement to explore the proffered help more thoroughly. Importantly, peer mediation needs to be provided within learners' ZPD. Fifth, the quantity of learners' production of appropriately and

inappropriately resolved solutions in mediated peer interaction potentially influences their subsequent individual written performance, particularly in terms of *Vocabulary and spelling* and *Implicit grammar*. This is taken as an indication that peer interaction affords learning opportunities for young ESL learners.

5.5 Summary

Table 80 summarizes the results for Research Question 4.

Table 80

Summary of statistically significant results for Research Question 4

Influencing factor	Statistical test	Category of interaction	Measure of interaction	Effect
Group	Mann-Whitney test	Activation of peer expertise	Mutual contribution	DyadicEA > DyadicBA
		Nature of peer assistance	Indicating that something needs improvement or alteration, and working together to obtain solution	DyadicEA > DyadicBA
		Peer consulting linguistic assistance during exchange	Explicit reference to linguistic assistance	DyadicBA > DyadicEA
		Types of resolution	Unresolved, leading to a request for outside intervention	DyadicEA > DyadicBA
English proficiency level	Kruskal-Wallis test	Focus of episodes (subtypes of CREs and LREs)	Punctuation LRE	High EPL > Middle EPL
		Quality of response (level of engagement)	Limited, short direct response to show acknowledgement	High EPL > Middle EPL
		Types of resolution	Appropriately solved	High EPL > Low EPL
	Simple regression analysis	Focus of episodes (subtypes of CREs and LREs)	Sentence structure LRE	Higher EPL, more episodes
		Quality of response (level of engagement)	Elaborate, rephrasing	Higher EPL, more episodes
		Types of resolution	Inappropriately solved	Lower EPL, more episodes
Group x English proficiency level	Multiple regression analysis	Nature of peer assistance	Proposing alternatives	DyadicEA (high EPL)
		Nature of peer assistance	Asking question to raise own awareness, understanding or knowledge of partner's meaning	DyadicEA (high EPL)

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

EPL = English proficiency level

The following is a summary of the main results for Research Question 4:

- (i) There were no significant differences in the numbers of various subtypes of CREs and LREs between the DyadicEA and DyadicBA Groups, and these results provide support for the Cognition Hypothesis, in that enhanced and basic linguistic assistance have similar effects on learners' L2 production during interaction. In other words, increasing written linguistic support does not necessarily orient greater attention toward linguistic accuracy during peer interaction when there is no change in the level of task complexity.
- (ii) In terms of *English proficiency level*, statistically significant relationships were found for certain subtypes of LREs and resolution of interactional episodes, and this suggests that learners' L2 proficiency influences the content of peer discussions.
- (iii) The provision of varying degrees of linguistic assistance appears to affect how peer assistance is given, with enhanced linguistic assistance encouraging more collaborative efforts between learners in a dyad than basic linguistic assistance. This means that it can potentially alter pair dynamics, which is an important consideration for promoting L2 learning opportunities.

Table 81 summarizes the multiple regression results, focusing on the direct and mediational effects of the quantity of different types of peer interaction on L2 written performance.

Table 81

Summary of hierarchical multiple regression results

Influencing factor	Measure of L2 written performance			
	Quality of ideas	Story shape and structure	Vocabulary and spelling	Implicit grammar
Direct effect of the quantity of different types of <i>Peer interaction</i> *			<i>Focus of episodes:</i> Idea-based CRE Structure-based CRE Connectives LRE Punctuation LRE	
			<i>Types of resolution:</i> Inappropriately solved	
Mediational effect of the quantity of different types of <i>Peer interaction</i> through <i>Group</i> **	<i>Focus of episodes:</i> Punctuation LRE	<i>Focus of episodes:</i> Idea-based CRE Lexical LRE Spelling LRE Punctuation LRE <i>Nature of peer assistance:</i> Correcting Explaining/clarifying		<i>Focus of episodes:</i> Punctuation LRE <i>Nature of peer assistance:</i> Providing approval Proposing alternatives <i>Types of resolution:</i> Appropriately solved Inappropriately solved

* Direct effect of the quantity of different types of *Peer interaction* = The quantity of different categories of peer interaction affecting L2 written performance directly

**Mediational effect of the quantity of different types of *Peer interaction* through *Group* = The quantity of different categories of peer interaction serving as a mediating variable between the *Group* and L2 written performance

To summarise, the main findings for Research Question 5 are as follows:

- (i) There are direct effects of the quantity of different types of peer interaction, specifically of *Focus of episodes* and of *Types of resolution*, on *Vocabulary and spelling* in subsequent L2 written performance.
- (ii) Through the provision of varying degrees of linguistic assistance, the quantity of different types of peer interaction mediates young learner's performance on *Quality of ideas*, *Story shape and structure* and *Implicit grammar* in their subsequent L2 writing. Specifically, the different numbers of *Idea-based CREs*, *Lexical LREs* and *Spelling LREs* generated by the DyadicEA and DyadicBA participants were found to be significantly

associated with *Story shape and structure*. In addition, the number of *Punctuation LREs* in the two treatment conditions had a statistically significant impact on learners' *Quality of ideas*, *Story shape and structure* and *Implicit grammar* performance. These findings highlight the fact that when it comes to narrative writing, as opposed to form-focused tasks, there may not be a one-to-one association between specific subtypes of CREs and LREs and their impact on particular aspects of L2 writing.

- (iii) For learners with limited L2 resources, it may be difficult to attend simultaneously to both higher- and lower-order writing processes, given their limited attentional capacity. This was suggested by the findings showing significant negative associations between the number of *Structure-based CREs* and *Vocabulary and spelling*, and between the number of *Spelling LREs* and *Story shape and structure*.
- (iv) The quantity of episodes of different categories of *Nature of peer assistance* produced within dyads during collaboration is a mediating variable between the provision of linguistic assistance and learners' performance on *Story shape and structure* and *Implicit grammar* in their writing. Specifically, the numbers of episodes of the categories of *Correcting* and *Explaining/Clarifying* were significantly associated with learners' *Story shape and structure* performance. The numbers of *Providing approval* and *Proposing alternatives* episodes were significantly associated with learners' *Implicit grammar* performance.
- (v) However, not all peer assistance offered during collaborative dialogue facilitates subsequent individual L2 written performance. Failure to internalise the linguistic support received from task partners may be due to working memory capacity constraints, a lack of sufficient information to process the feedback or suggestion, or an absence of critical engagement to explore the proffered help more thoroughly. Furthermore, it is essential that peer mediation is deployed within the ZPD of the learner.
- (vi) The quantity of learners' production of *Appropriately solved* and *Inappropriately solved* resolutions in mediated peer interaction potentially influences their subsequent individual written performance, particularly in terms of *Vocabulary and spelling* and

Implicit grammar. This finding lends support for the usefulness of peer interaction in promoting L2 learning opportunities for young learners.

CHAPTER 6

CONCLUSION AND FUTURE DIRECTIONS

6.1 Introduction

The core of this thesis concerns the use of written linguistic assistance and peer interaction to afford young ESL learners the opportunities to develop their L2 written narrative performance. Here, the central question of *Do these two components indeed nudge learners to become better L2 writers?* was examined from a realist standpoint and within a quantitative framework. In answering this question, the study also investigated how young ESL learners, given their restricted linguistic resources, offered mediated peer assistance to their partner during task performance. In addition, it addressed the research gap on how varying degrees of written linguistic assistance impact learner interaction and L2 production.

This final chapter begins with a summary of the major insights from the present intervention-based study. The findings will be discussed in terms of the influences of each component – linguistic assistance and peer interaction – on learner performance, rather than by order of the research questions, in order to illustrate these components' respective potential role in L2 development, and to address the links between linguistic assistance, peer interaction and L2 writing. The chapter then reviews the contributions this study makes to the field of second language education, particularly in the context of young learners. It also considers its limitations and pedagogical implications. Finally, the chapter culminates with suggestions for future research.

6.2 Summary and discussions

The present study has examined each component of writing: *Quality of ideas*, *Story shape and structure*, *Vocabulary and spelling* and *Implicit grammar*, separately, instead of aggregating them into a single overall writing score. In doing this, it aimed to increase the sensitivity of the

statistical analysis in detecting significant differences in learners' L2 narrative performance. On the whole, although the control group and all three treatment groups in this study demonstrated some improvement in various components of their L2 narrative writing throughout the intervention, it is important to bear in mind that the overall mean gains that these learners achieved for each component were small. Nonetheless, four major findings are evident. First, it appears that the provision of written linguistic assistance influences the L2 written performance of young ESL learners. In the absence of dyadic interaction, basic linguistic assistance, which comprises a list of isolated content words and verbs relevant to the narrative task, was found to have a sustainable positive impact on learners' *Story shape and structure* and *Vocabulary and spelling* performance. These results suggest that not only does the provision of relevant words potentially ease lexical retrieval during narration, but the engagement with these words during L2 written production may also lead to robust retention of learnt lexis and linguistic forms, resulting in improved performance in subsequent individual vocabulary performance. This corresponds to the findings of Hultsijn and Laufer (2001), Kim (2011) and Nassaji and Hu (2012), all of whom reported subsequent retention of vocabulary when learners were required to use the target words in L2 production. With demands at the linguistic formulation stage apparently reduced, learners may have been afforded, and may have exploited, the opportunity to devote more of their attentional and memory resources to organising the story structure and developing the story line.

Further comparison of the provision of varying degrees of linguistic assistance to learners during peer collaboration demonstrated that enhanced linguistic assistance, which was given to learners in the form of short paragraphs of text outlining the introduction and the beginning of a plot for the story, may have a positive, though not sustainable, influence on their written *Quality of ideas* and *Story shape and structure* performance. A plausible explanation for this is that with enhanced linguistic assistance, learners may have experienced, or possibly perceived themselves as experiencing, reduced linguistic demands at the linguistic formulation stage, and this may have enabled them to orient their attention to higher-order writing processes such as generation and evaluation of ideas for their story, and organisation of the story structure. Note that a caveat

to the interpretation of these results is in order, because the correlations between treatment and learner performance, while statistically significant, were small, and it did not appear that providing enhanced linguistic assistance led to durable gains in *Quality of ideas* and *Story shape and structure*.

For *Vocabulary and spelling*, it remains uncertain precisely how much influence enhanced linguistic assistance may have had on subsequent individual performance, given that the effect of treatment was detected only at interim test, i.e., four weeks into the intervention. At immediate and delayed posttests, there were no significant associations between treatment and learner performance. One interpretation may be that the provision of peer-mediated basic linguistic assistance was sufficiently helpful in facilitating the *Vocabulary and spelling* component of narrative writing, and that enhanced linguistic assistance did not add to learners' L2 resources during dyadic performance. In other words, possibly due to their limited L2 proficiency or developmental readiness, there may have been a ceiling to the benefits of lexical retrieval and selection that could be gained from the written support for this particular group of ESL learners. Another interpretation of the lack of significant sustainable effect of treatment may be that the provision of enhanced linguistic assistance in the form of paragraphs of text made it difficult for the participants in the treatment group to attend solely to *Vocabulary and spelling*, due to the large amount of unfocused textual information they had to cope with, as opposed to basic linguistic assistance, which, given to learners in the form of isolated words, afforded a clearer outline of what L2 help was available in these areas.

In contrast, enhanced linguistic assistance appears to have a positive and sustainable influence on subsequent individual performance on *Implicit grammar*. A possible explanation for this finding is that enhanced linguistic assistance, which was provided to learners in the form of word choice and syntactic structures, may have afforded dyads the needed linguistic resources to discuss, reflect on and co-construct L2 knowledge. Importantly, the written support may have been presented to learners within their zone of proximal development, bearing in mind that the selection of words or expressions from the linguistic assistance was based entirely on their own

choice and their self-perceived language needs. In other words, the learners may have been developmentally ready to capitalise on the grammatical resources offered by the enhanced linguistic assistance and to retain the L2 knowledge co-constructed during peer interaction, or to incorporate the linguistic information into their interlanguage system. This may have led to transfer of L2 knowledge from peer-assisted to self-regulated performance.

The answer to the question of whether peer interaction nudges young ESL learners to become better L2 writers is more complex: it is both no and yes. The answer is no when the study compares two groups of learners who received the same basic linguistic assistance, and throughout the intervention, one of the groups was given opportunities for dyadic interaction, while the other completed all writing tasks individually. Contrary to expectation, the study could not find statistical evidence to show that dyadic interaction led to the subsequent production of better quality writing. This was taken to indicate that although peer interaction may have afforded learners the opportunities to pool their ideas and linguistic resources during collaborative task performance, its effects may not have carried over to subsequent individual performance. This corroborates findings from Kuiken and Vedder's (2002) and Nassaji and Tian's (2010) studies, both of which showed learners in dyads performing better during tasks than their counterparts working on the same task individually, but when they were no longer working with their peers, being unable to show greater gains in their individual performance at posttest. Nonetheless, there are other studies, such as Adams (2007), Eckert (2008) and Swain (1998), which employed tailor-made posttests, and these were able to show instances of successful transfer of L2 knowledge from dyadic to individual performance; however, these tests comprised discrete item types of specific linguistic forms put forward to learners in a context not dissimilar to their previous discussions. Learning outcomes were measured in terms of the accurate use of the exact aspect of language which learners had previously discussed. While these results provide useful information on learners' retention of L2 linguistic knowledge obtained from peer interaction, they do not reflect nor reveal learners' ability to transfer their learnt linguistic knowledge to new forms, or to apply these forms in a less-controlled context,

such as narrative writing. For the latter, peer interaction may not be a sufficient condition for advancing subsequent individual L2 written performance, as seen in the case of the present study with young ESL learners who were provided with basic linguistic assistance during task.

On the other hand, the answer to the question of whether peer interaction nudges young ESL learners to become better L2 writers is yes based on a closer examination of audio-recorded learner dialogues obtained from a subset of fifteen proficiency-matched dyads who received enhanced linguistic assistance, and another fifteen who received basic linguistic assistance. Here, data from both treatment groups were combined, and results of the hierarchical multiple regression analyses showed that learners' individual subsequent performance on different aspects of writing could in part be explained by certain types of interactional episodes during peer interaction. In fact, the study found two ways in which the numbers of peer interaction of different categories could influence the subsequent individual writing of young learners: (i) they may have a direct effect on learners' *Vocabulary and spelling* performance; and (ii) they appear to mediate learners' performance on *Quality of ideas, Story shape and structure* and *Implicit grammar* in their subsequent L2 writing through the provision of varying degrees of linguistic assistance. Results of the multiple regression analyses identified *Focus of episodes, Nature of peer assistance* and *Types of resolution* as the three characteristics of interaction which mediated learner performance.

The identification of the quantity of specific kinds of interactional episodes which made a unique contribution to variance in learner performance has permitted three revelations on how dyadic collaboration may or may not nudge young ESL learners to become better L2 writers. First, in terms of *Focus of episodes*, not all discussions on aspects of language promoted subsequent individual L2 written performance. For instance, for learners with restricted L2 resources, it may be difficult for them to attend simultaneously to both higher- and lower-order writing processes, given their limited memory and attentional capacity. This was reflected in the findings showing significant negative associations between the number of *Structure-based CREs* and *Vocabulary and spelling*: the more *Structure-based CREs* learners included in their discussions, the lower

their scores for *Vocabulary and spelling* at immediate posttest, and between the number of *Spelling LREs* and *Story shape and structure*: the greater the number of *Spelling LREs* in peer interaction, the lower their *Story shape and structure* scores.

Secondly, in terms of the *Nature of peer assistance*, not all peer assistance offered during collaborative dialogue facilitated subsequent L2 written production. Specifically, this study found that a higher production of *Correcting* during interaction was significantly associated with lower *Story shape and structure* scores, whereas a higher production of *Explaining/Clarifying* in collaborative dialogues was significantly associated with better *Story shape and structure* performance. In addition, there were significant positive associations between both *Providing approval* and *Proposing alternatives*, on the one hand, and learners' *Implicit grammar* performance, on the other. These findings underscore the importance of critical engagement during the interactive process, through which learners may explore the proffered help more thoroughly, and of verbalisation of linguistic problems and possible solutions, through which learners may attend to language features and reflect on their formulated hypotheses, in order to internalise the linguistic support that they have received from their peers. Importantly, learners need to be cognitively ready before effective reception and expression of L2 knowledge can take place, and thus, it is crucial that peer mediation be deployed within learners' zone of proximal development.

The third revelation relates to the impact of the quantity of given categories of peer interaction on individual L2 learning. For *Types of resolution*, this study found statistical evidence to show that the quantity of learners' production of both appropriately and inappropriately resolved solutions in dyadic collaboration influenced their subsequent individual written performance, particularly in terms of *Vocabulary and spelling* and *Implicit grammar*. Given that the production of inappropriately resolved solutions in collaborative dialogue negatively affected learners' subsequent individual performance, these results reiterate the caution that Adams (2007), Fujii and Mackey (2009) and Storch (2002), amongst others, have put forward on the occurrences of transfer of incorrect knowledge from dyad to individual performance, with learners learning

errors from their partner when they jointly resolve a linguistic problem incorrectly. Nonetheless, these results also lend credence to the benefits of peer interaction in promoting L2 learning opportunities for young learners, in that the production of appropriately resolved solutions in peer-mediated interaction facilitated subsequent individual performance.

Thus far, the first and second major findings of this study have been that linguistic assistance and peer interaction appear to be two important variables that can impact the L2 written performance of young ESL learners. The third major finding concerns the relationship between linguistic assistance and peer interaction. Based on the interactional data derived from the same 30 audio-recorded dyads, results of statistical analyses revealed that the provision of varying degrees of linguistic assistance did not appear to have any impact on the frequency of discussions related to lexical or grammatical choices; instead, it was found that learners' English proficiency level may have affected the production of certain linguistic forms, specifically, *Punctuation LREs* and *Sentence structure LREs*. In addition, the numbers of appropriately and inappropriately solved resolutions produced by dyads were also related to their L2 proficiency level. This suggests that learners' L2 English proficiency influences the content of peer discussions, a conclusion not dissimilar to Leiser's (2004) and William's (2001) studies on LREs and task-based instruction.

Importantly, the study has found that the provision of linguistic assistance during task may have influenced the nature of peer assistance. For instance, learners who received enhanced linguistic assistance during task performance were significantly more likely to contribute equally in a discussion, and to indicate a linguistic problem and work together to obtain a solution, than those who received basic linguistic assistance. The higher proficiency L2 learners in the enhanced linguistic assistance group also tended to generate a greater number of *Proposing alternatives* and *Asking question to raise own awareness, understanding or knowledge of partner's meaning* episodes than the lower proficiency learners in the same group. It appears, then, that opportunities to use enhanced linguistic assistance may have encouraged more collaborative efforts between learners in a dyad than did basic linguistic assistance. This could be due to the greater amount of semantic and syntactic information contained in enhanced linguistic assistance,

as compared to basic linguistic assistance, that may have afforded learners the opportunity to provide mutual scaffolding during peer interaction. In this way, varying the level of linguistic assistance can potentially change the patterns of interaction in a dyad. This is important, given that several studies, such as Storch and Aldosari (2013) and Watanabe and Swain (2007), have identified pair dynamics as creating a greater impact on L2 task performance than learner proficiency. Thus, the present study not only provides partial support for the role of L2 proficiency in drawing learners' attention to linguistic forms during task performance, but also suggests that the patterns of interaction in a dyad can be altered via the provision of appropriate linguistic assistance.

The fourth major finding concerns the impact of the provision of linguistic assistance in the light of task complexity. Linguistic assistance was proposed in this study as an instructional device to ease the burden on attentional resources, in order to meet the L2 requirements at the formulation stage and to allow learners to focus on the conceptual demands during task performance. The study found that, in peer interactions, learners who received basic and enhanced linguistic assistance did not differ significantly in their production of subtypes of CREs and LREs. This means that varying the degree of linguistic assistance did not prompt higher numbers of discussions on specific linguistic forms, or lead to greater accuracy or complexity during task performance. Thus, in a way, these results seem to provide support for the Cognition Hypothesis, in that enhanced and basic linguistic assistance have a similar effect on learners' L2 production during interaction because neither reduces the cognitive complexity of the task.

With respect to the eventual individual written performance of learners, it was found that peer-mediated enhanced linguistic assistance initially promoted learners' *Quality of ideas* and *Story shape and structure* performance, though the impact was not sustainable. Even in the absence of peer interaction, the provision of basic linguistic assistance facilitated learners' subsequent *Story shape and structure* and *Vocabulary and spelling* performance. Taken together, the results seem to corroborate the prediction of the Trade-off Hypothesis instead of the Cognition Hypothesis, in that written linguistic support appeared to help L2 learners to overcome the competition for

attention between meaning and linguistic forms. Easing linguistic demands during task may have enabled learners to allocate more of their attentional resources to cognitive processing of the task content, and to be able to articulate more cognitively sophisticated solutions, resulting in better *Story shape and structure* and *Quality of ideas* scores. Put another way, linguistic assistance supported learners in managing task complexity during L2 production. In addition, the results appear to correspond to the *easing/focusing influences* of the Trade-off Hypothesis, which, according to Skehan (2009), potentially enable learners to access and exert more control over their already established interlanguage system during task, through processes such as repertoire creation, automatizing and achieving supported control. Through this process of activation of knowledge, linguistic assistance may have been able to facilitate subsequent performance.

However, it should be noted that the Trade-off Hypothesis also predicts greater accuracy and complexity in learners' L2 production when cognitive demands are alleviated. The present study only managed to show that learners who received basic linguistic assistance (without peer interaction) demonstrated significantly better linguistic performance in terms of L2 lexical production (*Vocabulary and spelling*) than learners who were not given the written support. There was no significant relationship between treatment and learner performance in terms of syntactic complexity (*Implicit grammar*). It was only with peer-mediated enhanced linguistic assistance, the treatment condition which offered young learners more linguistic resources than that of peer-mediated basic linguistic assistance, that a significant effect on syntactic complexity (*Implicit grammar*) was observed. What this shows is that facilitating linguistic requirements of a task at the appropriate developmental level for young learners may potentially reinforce accurate and complex L2 written production. As proposed by the Trade-off Hypothesis, it may be the increase in control over the existing interlanguage system that causes learners to have more fluent access to lexical retrieval and sentence construction, and that affords learners opportunities to form more developed ideas or story structure in their written narratives.

The present quasi-experimental study, in sum, shows that linguistic assistance and peer interaction potentially impact the L2 written performance of young ESL learners. While

increased linguistic assistance may affect the content and linguistic complexity in subsequent individual written production, it may not necessarily orient learners' attention to specific linguistic forms during peer interaction, or trigger a collaborative dialogue on these forms. The findings further indicated that enhanced linguistic assistance may be important in promoting a greater number of interactional features related to peer assistance than does basic linguistic assistance. Finally, a reiteration is in order: it is not the intention of this research to compare the Cognition Hypothesis with the Trade-off Hypothesis or to test which assumptions are correct. In fact, neither hypothesis can adequately explain the findings of the study, given that the study has investigated task complexity from a different angle than previous research, i.e., how manipulation of the nature of linguistic assistance affects L2 performance as young ESL learners cope with the cognitive complexity of an L2 narrative writing task, instead of how manipulation of task complexity affects L2 production. For this reason, both the Cognition Hypothesis and the Trade-off Hypothesis were employed to shed some insights into the relationship between cognitive task complexity, attentional resources and L2 linguistic performance.

6.3 Contributions of this study

The contribution of this exploratory study to an understanding of how young ESL learners can be nudged to perform at a higher level of competence in their use of the target language during a narrative writing task is twofold. First, it fills a gap in the educational research by examining the influence of providing varying degrees of written linguistic assistance in instructional materials as a tool to mediate the L2 development of young learners. Very little research to date has investigated the use of such written support in a collaborative writing task, even though it is common practice for teachers to provide learners with help, often unstructured and in the form of isolated words, when learners request assistance from them during writing. To this end, the present study not only closely examined, through collaborative dialogues, the immediate effect of providing opportunities for learners to engage with the linguistic assistance during the composing process, but also addressed the eventual effect of such provision on learners' individual L2 written performance. In this way, the study has shown some beneficial effects for peer-mediated

linguistic assistance in terms of opportunities for promoting knowledge in dyads, as well as knowledge of individual participants within dyads.

From a research perspective, by situating linguistic assistance within the construct of task complexity, this study offers another dimension for looking at the attentional demands of tasks and their impact upon L2 learning opportunities. Unlike preceding research, which has focused on how varying the conceptual demands of tasks affect L2 linguistic performance (as measured by the complexity, accuracy and fluency of output), this study has investigated how both content complexity and L2 performance may be affected by varying degrees of linguistic assistance.

Here, the main concern was on providing linguistic support to learners with limited L2 resources, so that they could manage task complexity during L2 production. To this end, task outcome was examined in terms of cognitive complexity in content (*Quality of ideas* and *Story shape and structure*) and linguistic performance (*Vocabulary and spelling* and *Implicit grammar*). Notably, both Skehan et al. (2012) and Robinson (2011a) have addressed how linguistic performance can be facilitated through *easing/focusing influences* or *resource-dispersing dimensions* of task complexity; these include the use of pre-task planning time, structured tasks, the provision of task-relevant prior knowledge and opportunities for rehearsal of language for subsequent performance. However, all the support proposed thus far appears to focus more on reducing the performative demands rather than on directly easing the linguistic demands of tasks, unlike the written linguistic assistance employed in the present study. In this respect, the findings of this study, which highlighted the differential effects of enhanced and basic linguistic assistance on the L2 narrative writing performance of young ESL learners, contribute to knowledge on how attentional demands of tasks, and linguistic performance, can be manipulated when learners with restricted L2 knowledge are provided with help in their language production as they perform a cognitively complex task.

Secondly, this study adds to the body of knowledge about dialogic interaction amongst young ESL learners. Whereas other studies have considered the nature of pairings to include NS-NNS child dyads or child-adult dyads when performing communicative tasks, to ensure child learners

obtain accurate input and feedback, this study has focused solely on learner discussions between proficiency-matched NNS-NNS child dyads. The interactional data analysed illustrate the complexity of peer collaboration between learners with limited L2 resources to solve linguistic problems as they worked together to create learning opportunities based on their own zone of proximal development and communicative needs. With greater ecological validity than studies conducted in laboratory contexts (Mackey & Goo, 2007), findings from this classroom-based study confirm that collaborative dialogue can occur in NNS-NNS child dyads during a meaning-oriented collaborative writing task. One particular forte of this study is that it has identified specific characteristics of interactional episodes that learners are likely to engage in during mediated peer interaction. For instance, as discussed earlier, the young learners in high proficiency dyads in this study tended to produce more *Punctuation LREs* and *Sentence structure LREs* during collaborative dialogue than those in lower proficiency dyads. What is revealing here is that, whereas previous studies, such as Leeser (2004), Storch and Aldosari (2013) and Williams (2001), could only demonstrate that high proficiency dyads generated more form-based LREs than low proficiency dyads, the present investigation was able to pinpoint, for this particular group of young learners involved in the study, the precise nature of LREs that high proficiency dyads tended to focus on, or that low proficiency dyads were likely to fail to acknowledge, during collaborative dialogue. This contributes further to the understanding of precisely what language features young learners with different levels of L2 proficiency may perceive as *their* linguistic problems that are worthy of discussion, and what aspects of language they are prone to notice, and formulate and test hypotheses on during collaborative writing.

Importantly, this study has also found that young learners are capable of creating interactional spaces where they actively request help from, and offer suggestions to, their partners as they co-construct language expertise. What is intriguing here is the revelation that the nature of peer assistance amongst young learners appears to be influenced, not by the L2 English proficiency levels of learners, but by the presence of written linguistic assistance, which was made available to them as a mediating tool and as a resource during task performance. In addition, the findings

showed that not all assistance offered by peers during collaborative dialogue facilitates subsequent individual written performance. In fact, it appears that a certain amount of peer tutoring (asymmetric dyadic interaction), rather than mutual scaffolding (symmetric dyadic interaction), is more constructive for these learners, in order for them to generate the level of L2 knowledge or expertise needed to enhance their individual performance. Hence, with this in mind, researchers and classroom practitioners may have to re-think the benefits of interaction amongst young ESL learners, and how to provide optimal support to them, in order to induce appropriate peer collaboration during writing tasks.

The third contribution of this study concerns its quantitative methodological orientation. Many studies, when examining in detail how learners engage in dialogic discussion, have tended to focus on a small sample of learners (Barron, 2003; Ohta, 2001; Philp, Walter, & Basturkmen, 2010; Storch, 2004; Williams, 2001), or a small number of lessons involving a few communicative tasks (e.g., Adams, 2007; Eckerth, 2008; Fernandez Garcia, 2007; Storch & Aldosari, 2013; Swain & Lapkin, 2001), in order to uncover the processes involved in peer collaboration. In contrast, the present study has opted for a close examination of the dialogues of 60 young learners performing a series of collaborative narrative writing tasks in dyads over a span of eight weeks, which amounted to approximately 225 classroom hours of interactional data. The quantification of this large amount of qualitative data, through detailed coding within the LRE framework, has enabled statistical analyses of specific characteristics of peer interaction and their contribution to variation in different aspects of L2 narrative writing. In this respect, the results of this study, in addition to providing an empirical account of peer-assisted performance amongst young learners in an L2 classroom context, lend statistical credence to some of the qualitative studies discussed earlier, which were framed within a sociocultural perspective, such as Donato's (1994) and Ohta's (2000, 2001) findings on peer assistance and co-construction of knowledge, Vass et al.'s (2008) findings on peer collaborative discourse during narration, and Storch's (2002, 2004) and Watanabe and Swain's (2007, 2008) findings on pair dynamics and learner proficiency.

6.4 Pedagogical implications

Several pedagogical implications can be drawn from this study. First, with the results to show that the inclusion of linguistic assistance in instructional materials can support young ESL learners in managing task complexity during L2 production, this study suggests that it is possible to offer developmentally appropriate written help, in terms of relevant words, expressions and linguistic forms, to learners in a structured manner during the composing process. As the study has shown, within the restricted time-scale, the nature of linguistic assistance influenced subsequent individual learner performance differently, in that, even in the absence of peer mediation, basic linguistic assistance was able to generate a sustainable positive impact on *Story shape and structure* and *Vocabulary and spelling*, whilst peer-mediated enhanced linguistic assistance brought about improved, though not sustainable, *Quality of ideas* and *Story shape and structure* performance. These results suggest that learner engagement with relevant words and linguistic forms during narration facilitated retention of vocabulary and language features, and with demands on lexical retrieval and syntactic processes reduced during subsequent narrative performance, learners could afford to invest more of their attention on the cognitive demands of the task, which, in this case, involve idea generation and organisation of their story. Additionally, as discussed earlier, further statistical analysis showing a sustainable positive effect of treatment on *Implicit grammar* for learners who received peer-mediated enhanced linguistic assistance highlights the importance of providing sufficient assistance for learners to extract linguistic information that was within their zone of proximal development. Therefore, in considering the pedagogical option of providing enhanced or basic linguistic assistance, it is crucial that classroom practitioners take into account the current level of interlanguage of their learners and to offer support that their learners can optimally draw on and engage with constructively in their work.

Second, other than helping learners to cope with task complexity, the results have also revealed that linguistic assistance has the potential to impact positively on peer collaboration during task performance. Based on the finding that dyads who received enhanced linguistic assistance

produced significantly more instances of mutual scaffolding during collaborative dialogue than those who received basic linguistic assistance, the study has suggested that it is possible to change the patterns of interaction in a dyad. It appears that, with enhanced linguistic assistance, which offers more L2 support, learners were more likely to work collaboratively toward a common solution during peer interaction. Apparently, shared linguistic resources or the lack of them, at least as perceived by learners in a dyad, may affect their willingness to engage in collaborative dialogue. This is an important pedagogical consideration for L2 collaborative writing, given that studies such as Storch (2002, 2004), Storch and Aldosari (2013) and Watanabe and Swain (2007, 2008) suggest that pair dynamics may have a stronger effect on L2 learning opportunities than learner proficiency. By incorporating enhanced linguistic assistance in a writing task, learners, particularly those who are less able to engage in negotiated interaction, are afforded the opportunity to pool their added resources, in order to solve a linguistic problem or to offer, and build on, linguistic ideas, using the semantic and syntactic information they have extracted from the written support. Thus, instead of considering how learners may be placed in dyads so that they can collaborate with a more knowledgeable partner, in order to obtain appropriate input and feedback, classroom practitioners now have the option of considering how learners may be placed in dyads so that both participants can have adequate access to the common task-relevant knowledge resource to mediate their collective oral and written production. It is important to reiterate here that classroom practitioners need to ensure that the written linguistic assistance provided to their learners should be developmentally appropriate for *both* participants in each dyad, in order for the collaborative process of assisted performance to occur within their collective zone of proximal development.

Third, this classroom-based research has identified various forms of peer assistance employed by young ESL learners during collaborative dialogue that were constructive for their subsequent individual written performance. This means that it is possible for classroom practitioners to provide learners with specific guidance and practice in using language to offer constructive assistance to their peers, in order to construct linguistic knowledge together. For instance,

learners can be taught how to use language as a mediating tool to think together with their task partners through verbalisation of linguistic problems and elaboration of possible solutions, as suggested by Mercer and Littleton (2007), Vass (2004) and Volet, Summers and Thurman (2009, p. 139). Likewise, learners can be made aware that providing direct solutions or corrections to their task partners without further explanation or elaboration may not be very useful for L2 learning. From what can be gathered from the interactional data of this study, essential characteristics of conducive peer assistance that may influence subsequent self-regulated performance are that it: (i) involves critical engagement of contributions between peers; (ii) offers, and receives, the right amount of help pitched at the appropriate developmental level; and (iii) comprises instances of peer tutoring to provide some form of expertise during an exchange. In terms of peer tutoring, it is essential that there is no one dominant member in a dyad; instead, there should be shifts in the expert-novice role during task performance to ensure a balanced contribution to peer collaboration. This is where, perhaps, in addition to guiding learners to use language effectively as a tool for thinking collectively when providing peer assistance, classroom practitioners may need to consider cognitive complexity of tasks and to select those that are developmentally challenging enough to encourage active contributions of ideas and linguistic knowledge from all participants in dyads.

The fourth pedagogical implication brings to light the inadequacy of basic linguistic assistance to yield significant improvement in grammar performance of young ESL learners in L2 narrative writing. The results have shown that, within the limited time frame of the study, only enhanced linguistic assistance was able to help learners to perform significantly better in their subsequent individual *Implicit grammar* performance than basic linguistic assistance. As discussed earlier, this may be attributable to the additional textual information in enhanced linguistic assistance, making it possible for learners with limited English proficiency to share the grammatical resources as they jointly solve linguistic problems during task; such support is limited to isolated words in basic linguistic assistance. Moreover, it may be due to the nature of the narrative writing task itself, which requires learners to focus not only on the selection of appropriate verb

tenses, but also on the formation of sentences, use of connective devices and punctuation. In view of this, whether peer-mediated basic or enhanced linguistic assistance is the selected pedagogical option, it may be useful for classroom practitioners to include in their writing lessons some grammar-focused materials, such as dictogloss (Wajnryb, 1990), consciousness-raising tasks (Ellis, 2003, p. 162), or grammar interpretation tasks (Ellis, 1995), to induce learners' attention to specific language items at the discoursal, syntactic and lexical levels. These grammar tasks can be implemented as pre- or post-writing tasks, depending on the objectives of the teacher, the class situation and the duration of the task. In this way, through such supplementary grammar instruction, learners may become more attuned to relevant forms, making it easier for them to notice the linguistic features they need from the proffered linguistic assistance for their L2 narration.

6.5 Limitations of this study

There are several limitations to the present study. The first concerns external validity. The participants selected for this study predominantly comprised young ESL learners (age 10) of similar Malay L1 background and L2 English educational experience, in order to control for possible intervening variables. However, the relatively homogenous characteristics of these participants also mean that the generalisability of the findings here to other populations or instructional contexts is limited. Another factor which may affect the generalisability of the results of this research is the teacher variable. While precautions were taken to reduce the teacher effect and to ensure fidelity to treatment condition throughout the intervention, the competence of individual teachers in the implementation of the instructional treatment was not examined, and this may have influenced learners' writing performance. In addition, the investigation has focused on one particular text type, narratives; thus, these findings may not extend to other types of writing.

The second limitation is related to the length of the experimental treatments. Within the restricted time-scale of the present study, statistical analyses have revealed some significant effects of

linguistic assistance on learners' L2 written performance. It is possible that with more treatment sessions, and therefore more opportunities for noticing and engagement with relevant words and linguistic forms in collaborative dialogue, clearer trends in the relationships between linguistic assistance, peer interaction and L2 writing development might emerge. For instance, on the partial correlation analysis of the influence of enhanced linguistic assistance on L2 written performance, the trend in the correlation between treatment and learner performance on *Vocabulary and spelling* at immediate posttest closely approached significance ($p = .06$). The existence of such a trend highlights the need for a longer study, in order to investigate any long-term linguistic development or changes in L2 proficiency due to the influence of varying degrees of peer-mediated linguistic assistance.

The third limitation is a lack of introspective data in this study to provide empirical information on learners' thought processes. For instance, I have suggested here that the reason learners who received enhanced linguistic assistance did not outperform those who received basic linguistic assistance in terms of vocabulary in their subsequent individual writing may have been because, due to their developmental readiness, both groups may have sought linguistic information from the written support and applied it in their narration in the same way. An alternative, equally plausible explanation is that learners with enhanced linguistic assistance may have found the unfocused written support too overwhelming to solely focus on vocabulary, and as a result, were not able to optimally make use of it in their writing. Here, it would have been useful to combine the analysis of task performance with introspective methods such as stimulated recall (Egi, 2008; Gass & Mackey, 2000), to find out what these learners recalled thinking when they were given enhanced linguistic assistance to be used in their writing. Although not feasible with the large number of participants involved in the current investigation, stimulated recall would have provided an insightful account of learners' interpretations of their own work and use of the linguistic assistance during task. For classroom practitioners interested in using L2 written support to help learners manage task complexity, it is important to determine precisely in what way enhanced and basic linguistic assistance are helpful for young ESL learners. To this end,

questions such as *Did learners actively search for information in the linguistic assistance to help them? Did they notice specific information in the linguistic assistance that they received?* and *Did they attempt to use the information in their writing?* could form the basis from which to explore learners' perceptions about the linguistic assistance provided to them.

Finally, the fourth limitation concerns the analysis of written performance. As with many studies that have focused on L2 writing development (e.g., Beard & Burrell, 2010; Sasaki, 2009; van Gelderen, et al., 2011), the present study has chosen to examine global text quality. Further, for this particular group of young learners characterised by their shared first language, Malay, and limited exposure to English outside of school, the study has opted for the Brunei National Study of Student Competencies in Mathematics and English (NSSCME) writing scale, which was specially developed with the Brunei English syllabus in mind (Anderson, 2008). This scale differs from the analytical measures commonly used in SLA research to investigate the complexity, accuracy and fluency of L2 production (e.g., Ishikawa, 2007; Kormos, 2011; Storch & Wigglesworth, 2007), which include, for instance, the number of T-units (i.e., a main clause plus subordinate clauses) per text (for fluency), percentage of error-free clauses (for accuracy), percentage of lexical to function words (for lexical complexity), and the proportion of clauses to T-units (for syntactic complexity). Because the main aim of the present study was find out if young ESL learners could be assisted to become better L2 writers, there was a need to measure *better* writing, or progress in writing. Thus, with measures of complexity, accuracy and fluency, the key question that needs to be asked is: which of these components characterise better writing? Put another way, do becoming better writers mean they have to be more accurate, fluent and complex in their writing? If so, then the use of these measures to evaluate writing is based on the assumption that all three language components develop in tandem, which, according to Skehan and Foster (2001) and Robinson (2001b), may not be the case. As discussed previously, whereas Skehan and Foster (2001) suggest that an increase in fluency may be accompanied by either an increase in complexity or accuracy, but not both, Robinson (2001b) proposes that, depending on task complexity, an increase in both complexity and accuracy may be achieved, but

at the expense of fluency. On account of this, it may be problematic to determine from the data whether progress in writing has been achieved, particularly amongst young ESL learners. For this reason, the study has chosen a trialled and validated analytical rating scale for this particular group of young learners, with four evaluation criteria (*Quality of ideas, Story shape and structure, Vocabulary and spelling* and *Implicit grammar*), to analyse the quality of their narrative writing performance. Nonetheless, the use of this writing scale is a limitation, given that it is difficult to make comparisons of findings across other SLA studies that have employed different measures. Possibly, additional analyses, which include measures of complexity, accuracy and fluency, could provide further information for comparison with other research studies.

6.6 Future research directions

In view of the limitations of this study, I would like to conclude my thesis by putting forward the following suggestions for future research. To begin with, the present study is exploratory in nature, and there is a paucity of research in the area of L2 writing which involves the provision of written linguistic assistance. Therefore, replication studies in a variety of contexts are highly desirable, in order to gain a better understanding of the relationships between linguistic assistance, peer interaction and L2 writing. For instance, the treatments used in this study might be usefully replicated in other educational contexts (e.g., in a Bruneian rural school with small class size of no more than ten children, and for these learners, English may be a third or fourth language), to check if the same effects of the intervention would be obtained as in the present study, and what adaptations might be needed for varying degrees of peer-mediated linguistic assistance. Importantly, this study needs be replicated with ESL learners of different ages and development levels, especially with learners at the secondary and tertiary levels, and with different text types, such as information report, explanation or exposition, before generalisations can be made regarding the roles of linguistic assistance and peer mediation in L2 writing development. What would also be insightful is research on the influence of the provision of linguistic assistance on L1 writing development, and to compare the nature and amount of

assistance learners of different developmental levels gain from the written support, and the nature of peer assistance offered during collaborative dialogue, when they are composing the L1 and L2 texts.

As discussed earlier, given that positive trends in L2 written performance were observed in this cross-sectional study for the participants who received enhanced and basic linguistic assistance, future studies could adopt a longitudinal design to investigate whether there might be any long-term influence of linguistic assistance on various aspects of L2 writing. In addition, future work would also benefit from longitudinal data to track changes, if any, in the way learners offer peer assistance to their task partners as they engage in collaborative dialogue, and how these changes might affect their subsequent writing. The data in the current study help to identify, in the development of written linguistic assistance for instructional materials, what aspects of language should be targeted to promote L2 learning. It would also be worthwhile, when conducting a longitudinal study, to take into account the teaching aspect. As in the present study, it is expected for classroom practitioners to be closely involved in the intervention, and to have the opportunity to provide feedback on the treatments. However, for a long-term study, provision should be made to track their teaching and their suggestions for adaptations to the treatment, to explore the potential links between teacher assistance (e.g., their role in providing a context for teacher-learner, or learner-learner, collaborative dialogue), mediated peer assistance and children's progress in writing.

The present study has employed a qualitative, inductive approach to uncover emergent themes in dialogues amongst young ESL learners, and it has opted for the quantification of qualitative data, in order to accommodate for the analysis of a relatively large corpus of peer interaction.

However, for future studies, it would be useful to include qualitative data to the quantitative results in the interpretation of findings. By complementing specific details from qualitative data with the numeric trends from quantitative data, the combined data could add depth to the description of the complex interactional processes involved when young learners use language to create L2 learning opportunities under different conditions. Further, qualitative data could be

used to shed light on how learners' use of language and non-verbal resources (e.g., facial expression, gesture, body movement and posture) are coordinated with their manipulation of the proffered linguistic assistance, in order to maintain discussion between peers and to reach a consensus when they encounter a problem during task.

Future research might also extend the investigation to include introspection of learners' perceptions, orientations and expectations of the L2 mediated writing tasks, in order to determine the extent to which learners consciously engage with varying degrees of linguistic assistance during task performance, and their conceptualisation of the support. To this end, a comparison could be made between learners' selection of words and expressions offered to them as linguistic assistance and their production of the final draft, and they might be asked to explain some of the choices they have made in selection and use. Learners' responses regarding whether they have selected the words and expressions because these are familiar, unfamiliar, interesting or important in helping them construct their story would facilitate understanding of how learners see the significance and functions of linguistic assistance. Taking it a step further, this would also present an interesting exploration into whether learners of different English proficiency levels share similar reasons for choice of words and expressions. Moreover, introspective measures, such as stimulated recall, could also be employed to explore the reasons why dyads of different proficiency levels engage in, or refrain from engaging in collaborative dialogue, as perceived by the learners themselves.

A final issue worth considering in future studies is the integration of a more sociocultural view of L2 learning. For instance, in relation to learners' appropriation of the written support in their oral and written narration during peer interaction, one could explore how learners assert their agency (or passivity) over their own learning, and in the process, create and consolidate their identities as participants in peer discussions, or investigate the roles of the L1 and L2, often used simultaneously in the present study, as mediating tools in learners' joint construction and internalisation of knowledge. Another important avenue for future research would be to examine the potential of linguistic assistance in dynamic assessment (Poehner, 2011; Poehner & Lantolf,

2005). Based on this developmental perspective of evaluating progress, what learners could produce without the aid of linguistic assistance would demonstrate their actual phase of development. With linguistic assistance, the amount and nature of the written support that learners utilise in their L2 production might reveal their potential linguistic development, as well as uncover the kinds of instruction, or further assistance, they require for their L2 development.

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Appendix 1: Narrative writing task with basic linguistic assistance (for the Dyadic Basic Linguistic Assistance Group), Task 6

Friendly Faridah and the lost kitten (Task 6)

Activity Sheet 1



Friendly Faridah found Sotong when she was walking to school one morning.

Look at what happened when she brought it to school.



Think about the story.

Before you talk to your friend about it, think which verbs and other words you would use in your story. You may tick as many boxes as you want.

Verbs: Tick ☒ the boxes you want and for each box underline which verbs you think you need.

is / was	☐
sleep / slept / sleeping	☐
bring / brought / bringing	☐
cry / cried / crying	☐
see / saw / seeing	☐
hide / hid / hiding	☐
lift / lifted / lifting	☐
teach / taught / teaching	☐

Other words: Tick ☒ the boxes you want.

classroom	☐	cute	☐
children	☐	quiet	☐
box	☐	teacher	☐
cupboard	☐	surprised	☐

Activity Sheet 3



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix 2: Narrative writing task with basic linguistic assistance (for the Individual Basic Linguistic Assistance Group), Task 6

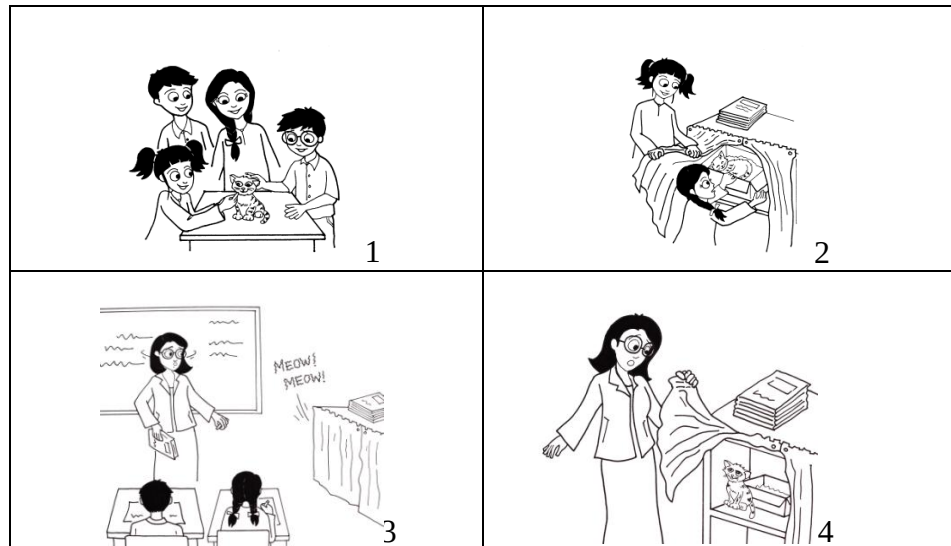
Friendly Faridah and the lost kitten (Task 6)

Activity Sheet 1



Friendly Faridah found Sotong when she was walking to school one morning.

Look at what happened when she brought it to school.



Think about the story.

Think which verbs and other words you would use in your story. You may tick as many boxes as you want.



Verbs: Tick ☒ the boxes you want and for each box underline which verbs you think you need.

is / was	☐
sleep / slept / sleeping	☐
bring / brought / bringing	☐
cry / cried / crying	☐
see / saw / seeing	☐
hide / hid / hiding	☐
lift / lifted / lifting	☐
teach / taught / teaching	☐

Other words: Tick ☒ the boxes you want.

classroom	☐	cute	☐
children	☐	quiet	☐
box	☐	teacher	☐
cupboard	☐	surprised	☐

Activity Sheet 3



Try to remember the story that you told your friends in your group.
What happened to Friendly Faridah and the kitten that morning?

[illegible]

Appendix 3: Narrative writing task with enhanced linguistic assistance (for the Dyadic Enhanced Linguistic Assistance Group), Task 6

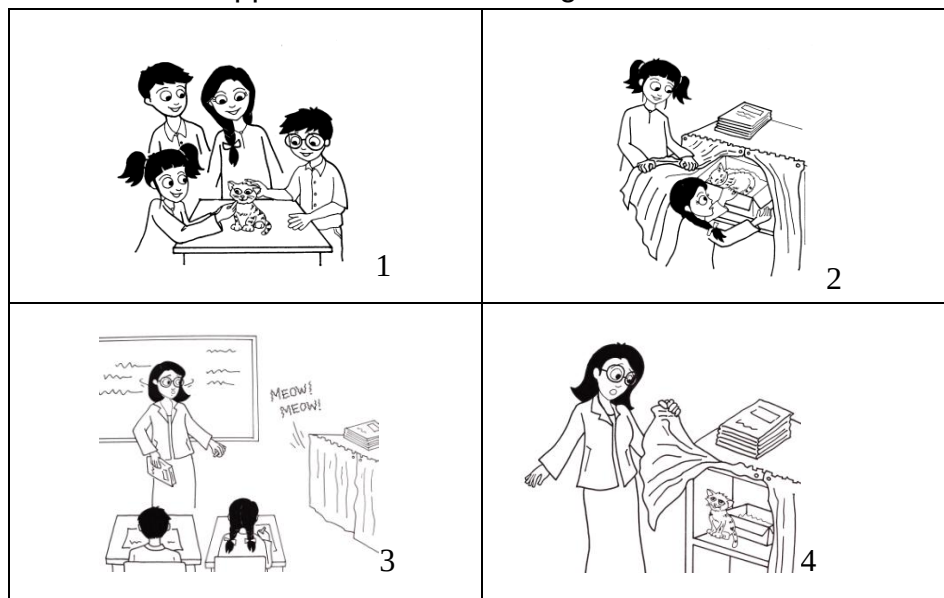
Friendly Faridah and the lost kitten (Task 6)

Activity Sheet 1



Friendly Faridah found Sotong when she was walking to school one morning.

Look at what happened when she brought it to school.



Think about the story.

Now, read the story below.



One morning while Friendly Faridah was walking to school, she found a kitten. She named the kitten Sotong. She brought it to school. All her friends were happy when they saw Sotong. They played with the kitten until it became tired. Moody Mimi found a box and put the kitten in the box. It fell asleep in the box.

Soon it was time for the lesson to begin. Friendly Faridah and Moody Mimi hid the kitten on the top shelf behind the cloth. The teacher walked into the classroom and began to teach. While she was teaching, she heard a sound. Meow! Meow! Meow! The teacher followed the sound to the shelf. She pulled the cloth away and, to her surprise, she saw a kitten...

In a few minutes you are going to work with a friend to tell the story and continue it.

First, underline 10 words or groups of words that you think will help you when you tell the story.

Remember, you can make changes and/or add your own words to make your story more interesting.

Activity Sheet 3



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.

[illegible]

**Appendix 4: Narrative writing task with no linguistic assistance (for the Control Group),
Task 6**

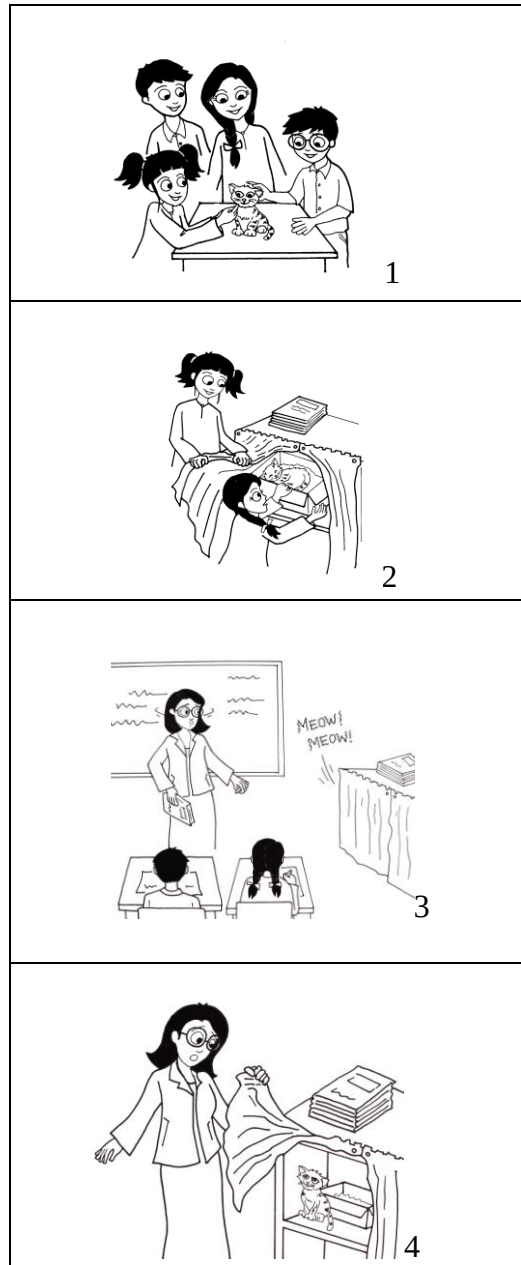
Friendly Faridah and the lost kitten (Task 6)

Activity Sheet 1



Friendly Faridah found Sotong when she was walking to school one morning.

Look at what happened when she brought it to school.



Think about the story on your own.

Activity Sheet 3



Try to remember the story that you told your friends in your group. What happened to Friendly Faridah and the kitten that morning?



Now, write the story on your own.

This image shows a full page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page, providing a template for handwriting practice or general writing. There are no margins, text, or other markings on the page.

Appendix 5: English proficiency rating

English proficiency rating

Rating	Description
6 (High)	EXCEPTIONAL Equivalent to a native speaker of English at the same age level
5 (High)	EXCELLENT Able to understand and use English in everyday talk. Able to express ideas clearly when writing in English. Although some errors occur, they do not interfere with the ability to convey meaning.
4 (Middle)	ADEQUATE Able to understand and express needs at adequate level. Limited level of social interaction (using English) because of reasonable oral language repertoire. Writing shows adequate word choice to express ideas, but has little variety of sentences.
3 (Middle)	LIMITED Able to satisfy immediate needs using utterances which consist of simple sentences. Speech is often short and memorized or formulaic. Writing shows imprecise language and incomplete sentences.
2 (Low)	MINIMAL Able to produce and comprehend only a very restricted range of simple utterances within the basic areas of needs (e.g. name, age, school). Writing shows inadequate word choice and sentence fragments.
1 (Low)	NONE Unable to speak or comprehend oral English. Unable to express ideas in the written form.

Appendix 6: Table showing the characteristics of participating teachers

Table 82

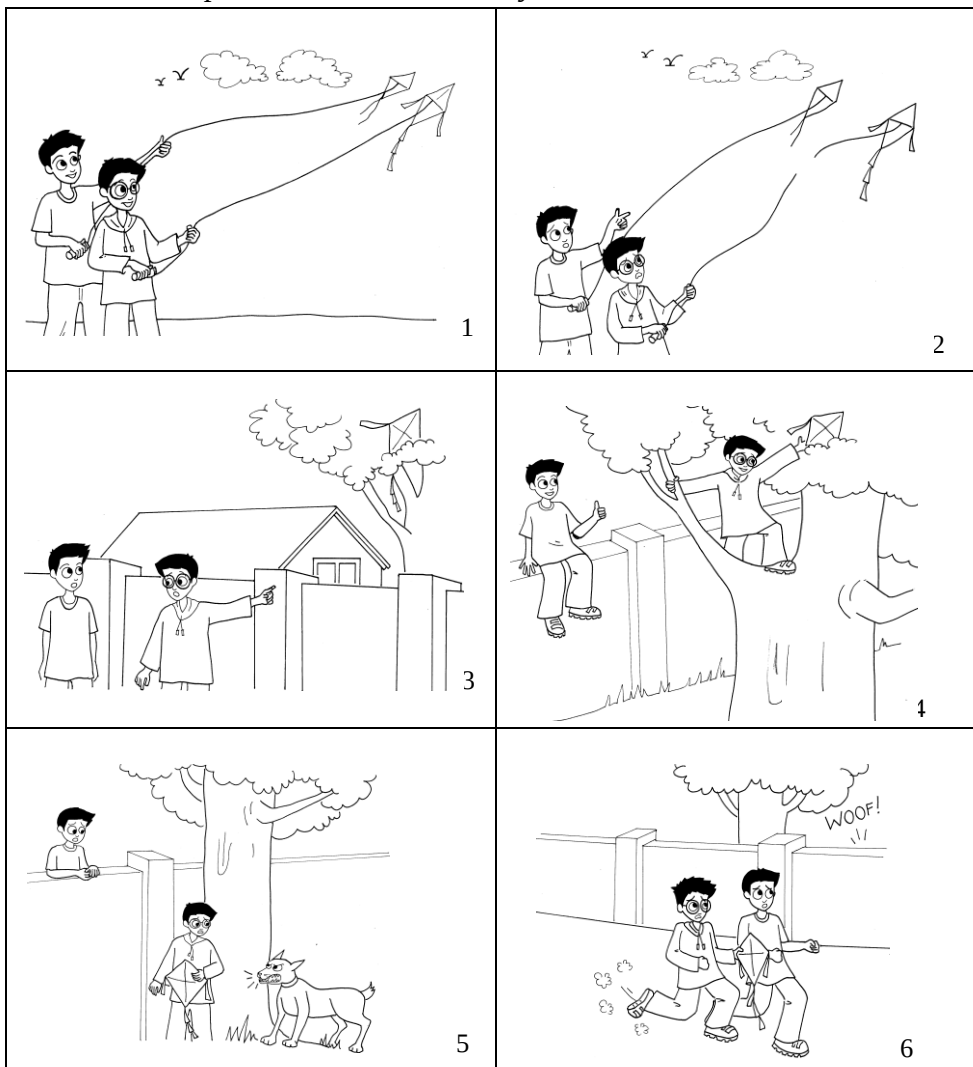
Characteristics of participating teachers

Teacher	School no.	Professional qualification	Gender	Years of teaching	Years of teaching English
T1	1	BA Primary Education	Female	4	3
T2	1	BA Primary Education	Female	2	2
T3	1	BA Primary Education	Female	17	17
T4*	2	B.Ed. Primary Education (TESOL)	Female	13	13
T5	2	BA Education	Female	20	15
T6*	3	BA Primary Education	Female	12	12
T7	4	Diploma in Primary Education	Male	7	7
T8	5	B.Ed. Primary Education (TESOL)	Female	9	9
T9	6	B.Ed. Primary Education (TESOL)	Female	9	7
T10	6	BA Primary Education	Female	7	6

*T4 and T6 were teaching two classes for this research study.

Appendix 7a: Narrative writing test

Look at the pictures and write a story.



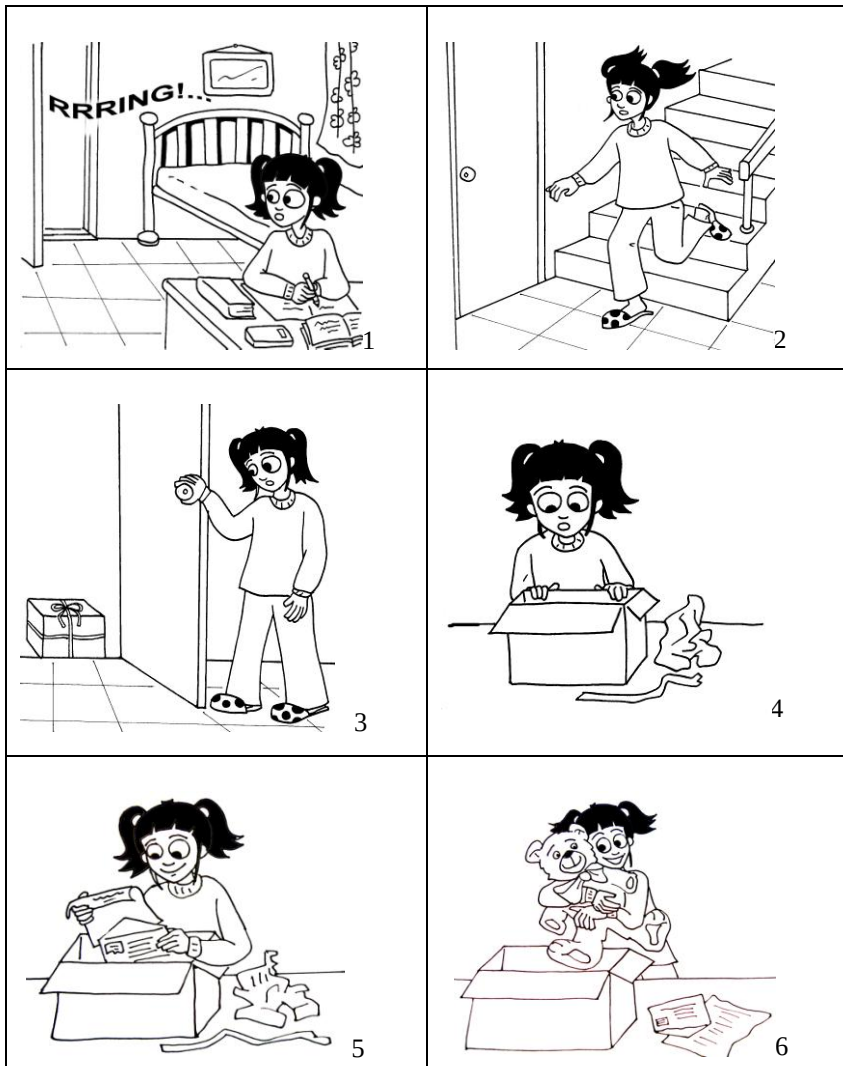
Title: _____

Last Sunday _____

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix 7b: Narrative writing test
Look at the pictures and write a story.

Look at the pictures and write a story.



Title: _____

Last Sunday _____

[illegible]

Appendix 7c: Narrative writing test

Look at the pictures and write a story.



Title: _____

Last Saturday _____

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix 7d: Narrative writing test
Look at the pictures and write a story.

Look at the pictures and write a story.



Title: _____

Last week _____

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Appendix 8a: Grammar cloze test

Fill in the blanks with the correct form of the word in the brackets.

One day Lucky Lucas _____ (walk) behind his house near the jungle when he heard a noise behind him. When he turned around, he _____ (see) a tiger. Lucky Lucas _____ (not know) what to do. “_____ (help)!” he shouted, but no one could hear him.

While the tiger _____ (move) slowly towards Lucky Lucas, a green mango suddenly _____ (land) on the tiger’s head. Lucky Lucas _____ (is) surprised. More green mangoes _____ (fall) on the tiger. It _____ (turn) and _____ (run) away. Lucky Lucas _____ (look) up and saw some monkeys up on the trees. “Thank you,” said Lucky Lucas to the monkeys, “you _____ (save) my life!”

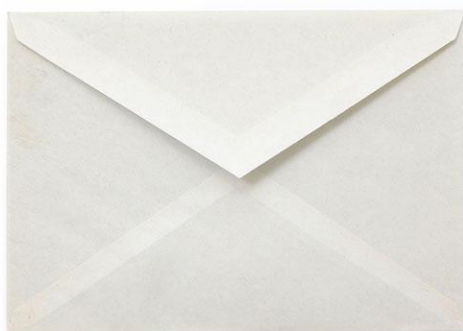


Appendix 8b: Grammar cloze test

Fill in the blanks with the correct form of the word in the brackets.

One Monday morning Honest Omar _____ (walk) to school when he _____ (see) an envelope on the ground. He _____ (pick) it up and _____ (open) it. He was surprised to find five hundred dollars in the envelope. Honest Omar _____ (not know) what to do. He _____ (look) around but he could not see anyone. "I _____ (have) to give this envelope to my teacher," he thought to himself.

When Honest Omar _____ (arrive) in school, he _____ (go) to look for his teacher. His teacher _____ (talk) to an old lady. It was Moody Mimi's grandmother. She looked very sad. "Excuse me, teacher," _____ (say) Honest Omar, "I found this envelope outside the school gate." His teacher and Moody Mimi's grandmother _____ (are) very happy. Moody Mimi's grandmother thanked Honest Omar for finding her envelope. She praised him for being an honest boy.



Appendix 8c: Grammar cloze test

Fill in the blanks with the correct form of the word in the brackets.

One Sunday morning, while Mimi _____ (have) her breakfast, her father _____ (tell) her that he was going to take her to the bookshop. She was very excited. He had promised to buy her a new book called *Scary Monsters*.

As soon as they _____ (arrive) at the bookshop, Mimi _____ (go) to the storybook section. She _____ (look) everywhere for the book but she _____ (not find) it. A lady from the shop _____ (try) to help Mimi but the book was not there. Mimi was sad.

Mimi decided to go home. While she _____ (look) for her father, she _____ (see) a man carrying a box into the shop. “_____ (wait),” said the lady from the shop to Mimi, “I think we have found your book.” The man quickly _____ (open) the box and in it were new copies of *Scary Monsters*. Mimi felt happy again. Her father _____ (buy) the book for her.



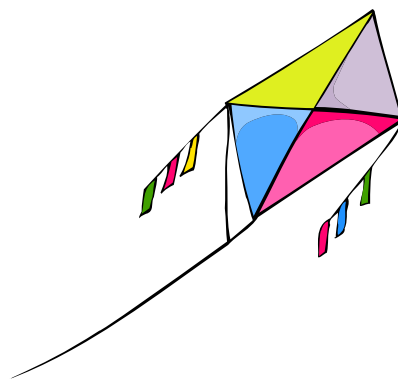
Appendix 8d: Grammar cloze test

Fill in the blanks with the correct form of the word in the brackets.

One afternoon, as Tassim _____ (fly) his new kite by the roadside, a man rode by on a bicycle. Suddenly, a strong gust of wind _____ (blow) the kite across the road. The man _____ (not see) the kite string and rode right into it. He was so surprised that he _____ (fall) off his bicycle.

Tassim _____ (drop) his kite and _____ (run) quickly to the man. He _____ (help) him up. The string had cut the man's neck and his knees and arms were scratched. "Don't you know that it is dangerous to fly your kite here?" _____ (shout) the angry man.

Tassim took the man to his house. While they _____ (walk) there, they met Tassim's mother. She was very angry with Tassim when she heard what had happened. She _____ (wash) and bandaged the man's wounds. She also _____ (give) him some money to buy a new bicycle. "I'm very sorry," Tassim said to his mother in a sad voice, "I _____ (promise) not to fly kites by the roadside again."



Appendix 9: Examples of words recorded in learners' learning logs

The two samples below are selected from the learning logs of a dyad who were performing the *Friendly Faridah and the lost kitten* task in Week 6. The transcript of their talk on this particular task can be seen in Appendix 22. The ticked words, according to the learners, were words that they had included in their joint written narrative.

Monday	English	Monday	English
1. read the kitten	Solong	1. while	✓
2. brought	✓	2. was walking	✓
3. happy	✓	3. school	✓
4. played	✓	4. kitten	✓
5. found a box	✓	5. Solong	
6. full askey	✓	6. played	✓
7. hid the kitten	✓	7. begin	✓
8. classroom	✓	8. teacher	✓
9. Nizawl	✓	9. classroom	✓
10. pulled the cloth away	✓	10. sound	✓

Appendix 10: CD-ROM containing a video demonstration of learners performing the narrative task

**Appendix 11: Intervention protocol for the Dyadic Enhanced Linguistic Assistance Group,
Task 6**

Friendly Faridah and the lost kitten (Task 6)

Grammar foci:

Past tense in narratives

Conjunctions to join sentences

Procedure:

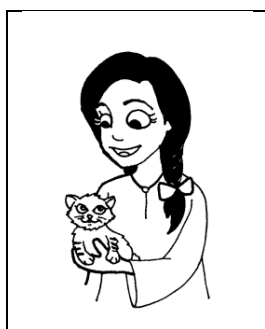
DAY 1

1. INTRODUCING THE ACTIVITY

Tell children that today they are going to do an activity which requires them to share ideas with their friends.

2. LET'S TALK (WHOLE-CLASS DISCUSSION)

- a) Put up the picture of Friendly Faridah (you may want to explain the word *friendly*). Tell the children that Friendly Faridah has a new kitten named Sotong.



Friendly Faridah

- b) Ask children to guess why Friendly Faridah has chosen that name for the kitten. You may want to write their responses on the board.
- c) Tell them that they will find out the reason when they listen to the following story.

3. LET'S LISTEN (WHOLE-CLASS ACTIVITY)

- a) Read the story to the class:

One morning while Friendly Faridah (point to the picture of Friendly Faridah) was walking to school, she heard a loud sound. Meow! Meow! Meow! Friendly Faridah followed the sound to a nearby dustbin and found a white kitten. The kitten looked lost. Friendly Faridah took out a packet of dried cuttlefish (show children the picture of the dried cuttlefish) from her pocket and put some cuttlefish on the ground. The kitten quickly ate up all the cuttlefish because it was very hungry. "My goodness," said Friendly Faridah, "you really like sotong, don't you?" Friendly Faridah wanted to give the kitten more food, but that was all she had. When Friendly Faridah continued her walk to school, the kitten followed her. Friendly Faridah decided to bring the kitten with her to school. "I think I'll call you Sotong from now on," she said with a smile.

- b) Tell children that there are some words in English (conjunctions) which can be used to join two sentences to make a longer one, e.g. *and, but, while, when, because*. Write these words on the board.

- c) Read the story to the children again. Tell them that they are going to listen for how these words are used in the story.
- d) After reading the story, ask them if they remember the sentences with conjunctions.
- e) Write the following sentences on the board:

One morning ____ Friendly Faridah was walking to school, she heard a loud sound.

Friendly Faridah followed the sound to a nearby dustbin ____ found a white kitten.

The kitten quickly ate up all the cuttlefish ____ it was very hungry.

Friendly Faridah wanted to give the kitten more food, ____ that was all she had.

____ Friendly Faridah continued her walk to school, the kitten followed her.

- f) Ask the children if they remember what words are used in the sentences. Fill in the conjunctions. Discuss with them how the conjunctions are used to join ideas.
- g) Rewrite some of the sentences so that they have no conjunctions, e.g.

One morning <u>while</u> Friendly Faridah was walking to school, she heard a loud sound.	One morning Friendly Faridah walked to school. She heard a loud sound.
The kitten quickly ate up all the cuttlefish <u>because</u> it was very hungry.	The kitten quickly ate up all the cuttlefish. It was very hungry.

Discuss with the children the effect of writing sentences with conjunctions (they can show relationships between ideas).

4. LET'S IMAGINE (INDIVIDUAL WORK)

- a) Distribute Activity Sheet 1 to the children.
- b) Give them time to look at the pictures and think about what happened to Friendly Faridah and the kitten.
- c) Remind children to use conjunctions to form longer sentences (keep the words *and*, *but*, *while*, *when*, *because* on the board).

5. NOTICING (INDIVIDUAL WORK)

- a) Tell the children they are going to continue the story in pairs later in the lesson.
- b) Ask them to look at the pictures and to think about the story.
- c) Tell them to read the given story on their own. Some children may need your help with the meaning of some of the words in the passage.

- d) Tell them that they are going to come up with a story in their own words and they need to finish the story, so they need to select 10 words or expressions that they think will help them when they tell their story.
Remind them that they are supposed to make changes and/or add their own words to their story so that it is different from the one that they have read.
 - e) Give children learning logs to jot down the words they have underlined.
6. LET'S SHARE (PAIR WORK)
- a) Put the children in pairs.
 - b) Hand out the voice recorders to the designated pairs.
 - c) Tell the selected pairs of children to start recording. Walk round to give any help that is needed.
 - d) Make sure that if they ask any words from you or obtain them from a dictionary, they record them in their learning log marked with a T (from the teacher) or a D (from a dictionary).
 - e) Tell all the children to compare their learning logs in their pairs and decide which words they are going to use from each other's learning log.
 - f) Take back Activity Sheet 1 and hand out Activity Sheet 2 (pictures) to the pairs of children.
 - g) Tell them to work in pairs to create a story orally. Give them 15 minutes to do this.
 - h) Walk round while they are working. You may need to help some pairs generate ideas for their story ending.
 - i) Collect Activity Sheet 2, the learning logs and the voice recorders at the end of the lesson.

DAY 2

1. LET'S TALK (WHOLE-CLASS DISCUSSION)
Recap the previous lesson briefly by talking about the procedures of the lesson (e.g. the use of a learning log to record important words, the way to talk to a partner), the characters of the story and the use of conjunctions.
2. LET'S SHARE (PAIR WORK)
 - a) Distribute Activity Sheet 2 to the children once again.
 - b) Distribute the voice recorders to selected pairs of children.
 - c) Ask the children to look at their learning logs in the same pairs as Day 1 and tell the story together again. Give them 5 minutes for this.
 - d) Tell the selected pairs to start recording. Walk round to give any help that is needed.
3. LET'S WRITE (PAIR WORK)
 - a) Hand out Activity Sheet 3 to each pair of children.
 - b) Tell the children to write their story on Activity Sheet 3. One member of the pair should write on the sheet, but both pair members should contribute to the story. Give them 30 minutes for this. Walk round to give any help that is needed. (Remind the selected pairs that they should continue recording.)
 - c) When the 30 minutes is up, tell the children they have 5 minutes to check their story together before handing it in.
 - d) Collect the stories, the learning logs and the voice recorders.

Appendix 12: Intervention protocol for the Dyadic Basic Linguistic Assistance Group, Task 6

Friendly Faridah and the lost kitten (Task 6)

Grammar foci:

Past tense in narratives

Conjunctions to join sentences

Procedure:

DAY 1

1. INTRODUCING THE ACTIVITY

Tell children that today they are going to do an activity which requires them to share ideas with their friends.

2. LET'S TALK (WHOLE-CLASS DISCUSSION)

- a) Put up the picture of Friendly Faridah (you may want to explain the word *friendly*). Tell the children that Friendly Faridah has a new kitten named Sotong.



Friendly Faridah

- b) Ask children to guess why Friendly Faridah has chosen that name for the kitten. You may want to write their responses on the board.
- c) Tell them that they will find out the reason when they listen to the following story.

3. LET'S LISTEN (WHOLE-CLASS ACTIVITY)

- a) Read the story to the class:

One morning while Friendly Faridah (point to the picture of Friendly Faridah) was walking to school, she heard a loud sound. Meow! Meow! Meow! Friendly Faridah followed the sound to a nearby dustbin and found a white kitten. The kitten looked lost. Friendly Faridah took out a packet of dried cuttlefish (show children the picture of the dried cuttlefish) from her pocket and put some cuttlefish on the ground. The kitten quickly ate up all the cuttlefish because it was very hungry. "My goodness," said Friendly Faridah, "you really like sotong, don't you?" Friendly Faridah wanted to give the kitten more food, but that was all she had. When Friendly Faridah continued her walk to school, the kitten followed her. Friendly Faridah decided to bring the kitten with her to school. "I think I'll call you Sotong from now on," she said with a smile.

- b) Tell children that there are some words in English (conjunctions) which can be used to join two sentences to make a longer one, e.g. *and*, *but*, *while*, *when*, *because*. Write these words on the board.

- c) Read the story to the children again. Tell them that they are going to listen for how these words are used in the story.
- d) After reading the story, ask them if they remember the sentences with conjunctions.
- e) Write the following sentences on the board:

One morning ____ Friendly Faridah was walking to school, she heard a loud sound.

Friendly Faridah followed the sound to a nearby dustbin ____ found a white kitten.

The kitten quickly ate up all the cuttlefish ____ it was very hungry.

Friendly Faridah wanted to give the kitten more food, ____ that was all she had.

____ Friendly Faridah continued her walk to school, the kitten followed her.

- f) Ask the children if they remember what words are used in the sentences. Fill in the conjunctions. Discuss with them how the conjunctions are used to join ideas.
- g) Rewrite some of the sentences so that they have no conjunctions, e.g.

One morning <u>while</u> Friendly Faridah was walking to school, she heard a loud sound.	One morning Friendly Faridah walked to school. She heard a loud sound.
The kitten quickly ate up all the cuttlefish <u>because</u> it was very hungry.	The kitten quickly ate up all the cuttlefish. It was very hungry.

Discuss with the children the effect of writing sentences with conjunctions (they can show relationships between ideas).

4. LET'S IMAGINE (INDIVIDUAL WORK)

- a) Distribute Activity Sheet 1 to the children.
- b) Give them time to look at the pictures and think about what happened to Friendly Faridah and the kitten.
- c) Remind children to use conjunctions to form longer sentences (keep the words *and*, *but*, *while*, *when*, *because* on the board).

5. NOTICING (INDIVIDUAL WORK)

- a) Tell the children they are going to continue the story in pairs later in the lesson.
- b) Ask them to look at the pictures and the list of verbs and other words, and put a tick in the boxes of the words that they think they will use in their story.
- c) Some children may need your help with the meaning of some of the words on the list.
- d) Give children learning logs to jot down the words they have ticked.

6. LET'S SHARE (PAIR WORK)

- a) Put the children in pairs.
- b) Hand out the voice recorders to the designated pairs.
- c) Tell the selected pairs of children to start recording. Walk round to give any help that is needed.
- d) Make sure that if they ask any words from you or obtain them from a dictionary, they record them in their learning log marked with a T (from the teacher) or a D (from a dictionary).
- e) Tell all the children to compare their learning logs in their pairs and decide which words they are going to use from each other's learning log.
- f) Take back Activity Sheet 1 and hand out Activity Sheet 2 (pictures) to the pairs of children.
- g) Tell them to work in pairs to create a story orally. Give them 15 minutes to do this.
- h) Walk round while they are working. You may need to help some pairs generate ideas for their story ending.
- i) Collect Activity Sheet 2, the learning logs and the voice recorders at the end of the lesson.

DAY 2

1. LET'S TALK (WHOLE-CLASS DISCUSSION)

Recap the previous lesson briefly by talking about the procedures of the lesson (e.g. the use of a learning log to record important words, the way to talk to a partner), the characters of the story and the use of conjunctions.

2. LET'S SHARE (PAIR WORK)

- a) Distribute Activity Sheet 2 to the children once again.
- b) Distribute the voice recorders to selected pairs of children.
- c) Ask the children to look at their learning logs in the same pairs as Day 1 and tell the story together again. Give them 5 minutes for this.
- d) Tell the selected pairs to start recording. Walk round to give any help that is needed.

3. LET'S WRITE (PAIR WORK)

- a) Hand out Activity Sheet 3 to each pair of children.
- b) Tell the children to write their story on Activity Sheet 3. One member of the pair should write on the sheet, but both pair members should contribute to the story. Give them 30 minutes for this. Walk round to give any help that is needed. (Remind the selected pairs that they should continue recording.)
- c) When the 30 minutes is up, tell the children they have 5 minutes to check their story together before handing it in.
- d) Collect the stories, the learning logs and the voice recorders.

**Appendix 13: Intervention protocol for the Individual Basic Linguistic Assistance Group,
Task 6**

Friendly Faridah and the lost kitten (Task 6)

Grammar foci:

Past tense in narratives

Conjunctions to join sentences

Procedure:

DAY 1

1. INTRODUCING THE ACTIVITY

Tell children that today they are going to do an activity which requires them to tell a story.

2. LET'S TALK (WHOLE-CLASS DISCUSSION)

- a) Put up the picture of Friendly Faridah (you may want to explain the word *friendly*). Tell the children that Friendly Faridah has a new kitten named Sotong.



Friendly Faridah

- b) Ask children to guess why Friendly Faridah has chosen that name for the kitten. You may want to write their responses on the board.
- c) Tell them that they will find out the reason when they listen to the following story.

3. LET'S LISTEN (WHOLE-CLASS ACTIVITY)

- a) Read the story to the class:

One morning while Friendly Faridah (point to the picture of Friendly Faridah) was walking to school, she heard a loud sound. Meow! Meow! Meow! Friendly Faridah followed the sound to a nearby dustbin and found a white kitten. The kitten looked lost. Friendly Faridah took out a packet of dried cuttlefish (show children the picture of the dried cuttlefish) from her pocket and put some cuttlefish on the ground. The kitten quickly ate up all the cuttlefish because it was very hungry. "My goodness," said Friendly Faridah, "you really like sotong, don't you?" Friendly Faridah wanted to give the kitten more food, but that was all she had. When Friendly Faridah continued her walk to school, the kitten followed her. Friendly Faridah decided to bring the kitten with her to school. "I think I'll call you Sotong from now on," she said with a smile.

- b) Tell children that there are some words in English (conjunctions) which can be used to join two sentences to make a longer one, e.g. *and*, *but*, *while*, *when*, *because*. Write these words on the board.
- c) Read the story to the children again. Tell them that they are going to listen for how these words are used in the story.
- d) After reading the story, ask them if they remember the sentences with conjunctions.
- e) Write the following sentences on the board:

One morning _____ Friendly Faridah was walking to school, she heard a loud sound.

Friendly Faridah followed the sound to a nearby dustbin _____ found a white kitten.

The kitten quickly ate up all the cuttlefish _____ it was very hungry.

Friendly Faridah wanted to give the kitten more food, _____ that was all she had.

_____ Friendly Faridah continued her walk to school, the kitten followed her.

- f) Ask the children if they remember what words are used in the sentences. Fill in the conjunctions. Discuss with them how the conjunctions are used to join ideas.
- g) Rewrite some of the sentences so that they have no conjunctions, e.g.

One morning <u>while</u> Friendly Faridah was walking to school, she heard a loud sound.	One morning Friendly Faridah walked to school. She heard a loud sound.
The kitten quickly ate up all the cuttlefish <u>because</u> it was very hungry.	The kitten quickly ate up all the cuttlefish. It was very hungry.

Discuss with the children the effect of writing sentences with conjunctions (they can show relationships between ideas).

4. LET'S IMAGINE (INDIVIDUAL WORK)

- a) Distribute Activity Sheet 1 to the children.
- b) Give them time to look at the pictures and think about what happened to Friendly Faridah and the kitten.
- c) Remind children to use conjunctions to form longer sentences (keep the words *and*, *but*, *while*, *when*, *because* on the board).

5. NOTICING (INDIVIDUAL WORK)

- a) Tell the children they are going to continue the story.

- b) Ask them to look at the pictures and the list of verbs and other words, and put a tick in the boxes of the words that they think they will use in their story.
 - c) Some children may need your help with the meaning of some of the words on the list.
 - d) Give children learning logs to jot down the words they have ticked.
6. LET'S TALK (INDIVIDUAL WORK)
- a) Take back Activity Sheet 1 and hand out Activity Sheet 2 (pictures) to each child.
 - b) Ask the children to use the words in their learning log and to think about the story on their own.
 - c) Make sure that if they ask any words from you or obtain them from a dictionary, they record them in their learning log marked with a T (from the teacher) or a D (from a dictionary).
 - d) Tell them that they are going to take turns to tell their story to a group of friends and then they are going to vote for the best story within the group.
 - e) Walk round while they are working. You may need to help some children generate ideas for their story ending.
 - f) Put the children in groups of four when they are ready to tell their story.
 - g) Hand out the voice recorders to the designated groups.
 - h) Tell the selected groups of children to start recording. Walk round to give any help that is needed.
 - i) Give the children in each group 15 minutes to exchange their stories.
 - j) When the 15 minutes is up, tell the children to vote for the best story within their group.
 - k) Collect Activity Sheet 2, the learning logs and the voice recorders at the end of the lesson.

DAY 2

1. LET'S TALK (WHOLE-CLASS DISCUSSION)
- Recap the previous lesson briefly by talking about the procedures of the lesson (e.g. the use of a learning log to record important words, the voting of the best story within the group), the characters of the story and the use of conjunctions.
2. LET'S REMEMBER (INDIVIDUAL WORK)
- a) Distribute Activity Sheet 2 to the children once again.
 - b) Ask the children to look at their learning log and think about the story again on their own. Give them 5 minutes for this.
3. LET'S WRITE (INDIVIDUAL WORK)
- a) Hand out Activity Sheet 3 to each child.
 - b) Tell the children to write their story on Activity Sheet 3 on their own. Give them 30 minutes for this. Walk round to give any help that is needed.
 - c) When the 30 minutes is up, tell the children they have 5 minutes to check their story before handing it in.
 - d) Collect the stories and the learning logs.

Appendix 14: Intervention protocol for the Control Group, Task 6

Friendly Faridah and the lost kitten (Task 6)

Grammar foci:

Past tense in narratives

Conjunctions to join sentences

Procedure:

DAY 1

1. INTRODUCING THE ACTIVITY

Tell children that today they are going to do an activity which requires them to tell a story.

2. LET'S TALK (WHOLE-CLASS DISCUSSION)

- a) Put up the picture of Friendly Faridah (you may want to explain the word *friendly*). Tell the children that Friendly Faridah has a new kitten named Sotong.



Friendly Faridah

- b) Ask children to guess why Friendly Faridah has chosen that name for the kitten. You may want to write their responses on the board.
- c) Tell them that they will find out the reason when they listen to the following story.

3. LET'S LISTEN (WHOLE-CLASS ACTIVITY)

- a) Read the story to the class:

One morning while Friendly Faridah (point to the picture of Friendly Faridah) was walking to school, she heard a loud sound. Meow! Meow! Meow! Friendly Faridah followed the sound to a nearby dustbin and found a white kitten. The kitten looked lost. Friendly Faridah took out a packet of dried cuttlefish (show children the picture of the dried cuttlefish) from her pocket and put some cuttlefish on the ground. The kitten quickly ate up all the cuttlefish because it was very hungry. "My goodness," said Friendly Faridah, "you really like sotong, don't you?" Friendly Faridah wanted to give the kitten more food, but that was all she had. When Friendly Faridah continued her walk to school, the kitten followed her. Friendly Faridah decided to bring the kitten with her to school. "I think I'll call you Sotong from now on," she said with a smile.

- b) Tell children that there are some words in English (conjunctions) which can be used to join two sentences to make a longer one, e.g. *and, but, while, when, because*. Write these words on the board.

- c) Read the story to the children again. Tell them that they are going to listen for how these words are used in the story.
- d) After reading the story, ask them if they remember the sentences with conjunctions.
- e) Write the following sentences on the board:

One morning ____ Friendly Faridah was walking to school, she heard a loud sound.

Friendly Faridah followed the sound to a nearby dustbin ____ found a white kitten.

The kitten quickly ate up all the cuttlefish ____ it was very hungry.

Friendly Faridah wanted to give the kitten more food, ____ that was all she had.

____ Friendly Faridah continued her walk to school, the kitten followed her.

- f) Ask the children if they remember what words are used in the sentences. Fill in the conjunctions. Discuss with them how the conjunctions are used to join ideas.
- g) Rewrite some of the sentences so that they have no conjunctions, e.g.

One morning <u>while</u> Friendly Faridah was walking to school, she heard a loud sound.	One morning Friendly Faridah walked to school. She heard a loud sound.
The kitten quickly ate up all the cuttlefish <u>because</u> it was very hungry.	The kitten quickly ate up all the cuttlefish. It was very hungry.

Discuss with the children the effect of writing sentences with conjunctions (they can show relationships between ideas).

4. LET'S IMAGINE (INDIVIDUAL WORK)

- a) Distribute Activity Sheet 1 to the children.
- b) Give them time to look at the pictures and think about what happened to Friendly Faridah and the kitten.
- c) Remind children to use conjunctions to form longer sentences (keep the words *and*, *but*, *while*, *when*, *because* on the board).

5. LET'S TALK (INDIVIDUAL WORK)

- a) Tell the children they are going to continue the story.
- b) Take back Activity Sheet 1 and hand out Activity Sheet 2 (pictures) to each child.
- c) Ask them to think about the story on their own.
- d) Tell them that they are going to take turns to tell their story to a group of friends and then they are going to vote for the best story within the group.

- e) Walk round while they are working. You may need to help some children generate ideas for their story ending.
- f) Put the children in groups of four when they are ready to tell their story.
- g) Hand out the voice recorders to the designated groups.
- h) Tell the selected groups of children to start recording. Walk round to give any help that is needed.
- i) Give the children in each group 15 minutes to exchange their stories.
- j) When the 15 minutes is up, tell the children to vote for the best story within their group.
- k) Collect Activity Sheet 2 and the voice recorders at the end of the lesson.

DAY 2

1. LET'S TALK (WHOLE-CLASS DISCUSSION)

Recap the previous lesson briefly by talking about the procedures of the lesson (e.g. the voting of the best story within the group), the characters of the story and the use of conjunctions.

2. LET'S REMEMBER (INDIVIDUAL WORK)

- a) Distribute Activity Sheet 2 to the children once again.
- b) Ask the children to think about the story again on their own. Give them 5 minutes for this.

3. LET'S WRITE (INDIVIDUAL WORK)

- a) Hand out Activity Sheet 3 to each child.
- b) Tell the children to write their story on Activity Sheet 3 on their own. Give them 30 minutes for this. Walk round to give any help that is needed.
- c) Give children their learning log to record the words they have asked from you (marked with a T) or obtained them from a dictionary (marked with a D). Remind them that if they have not obtained any words from you or the dictionary, they do not have to write anything in their log.
- d) When the 30 minutes is up, tell the children they have 5 minutes to check their story before handing it in.
- e) Collect the stories and the learning logs.

Appendix 15a: CUREC form 1

University of Oxford CENTRAL UNIVERSITY RESEARCH ETHICS COMMITTEE (CUREC) IDREC Checklist

*Principal investigator/supervisor/student researcher (title and name):	Juliana Shak
<u>FOR STUDENT RESEARCH PROJECTS ONLY</u> Name of Supervisor:	Dr. Catherine Walter
Department or institute:	Department of Education
Address for correspondence:	Worcester College, Oxford, OX1 2HB
E-mail and telephone contact:	juliana.shak@education.ox.ac.uk 075 498 69868

FAQ

Before completing this checklist, please ensure you have consulted the following CUREC guidance documents available on the CUREC website at <http://www.admin.ox.ac.uk/curec/resrchapp/index.shtml>:

- [Guidance on approval process](#)
- [Glossary](#)
- [FAQs](#)

This checklist is the first stage of the University of Oxford's scrutiny procedure for *research involving *human participants. (Definitions of terms marked with an asterisk are to be found in CUREC's glossary and guidance).

The University aims to ensure that all research is subject to *appropriate* ethical scrutiny. This form is designed to identify those projects which fall outside CUREC's remit; those which fall within CUREC's remit but which pose low risks to participants and so need scrutiny only through this checklist; and those which fall within CUREC's remit and which pose greater risk to participants and so need more scrutiny. If you need further advice or if you have comments about this form, please consult the [relevant IDREC officer](#) (please see: <http://www.admin.ox.ac.uk/curec/oxonly/contact.shtml>).

FAQ

The checklist should be completed by the *principal investigator/supervisor/student researcher (under the guidance of his/her supervisor) undertaking or supervising research which comes under CUREC's responsibility. Please carry out a risk assessment of the project, in consultation with all researchers involved, using the checklist and CUREC's other documentation.

This form does not cover research governance, satisfactory methodology, or the health and safety of employees and students. As principal investigator, it is your responsibility to ensure that requirements in these areas are met.

Office use only:

IDREC Ref. No. _____

Date of confirmation that checklist accepted on behalf of IDREC: // //

Section A

Title and brief lay description of *research (about 150 words), plus description (about 200 words) of the nature of participants (including the criteria for inclusion/exclusion, method of recruitment, attaching samples of participant information and consent forms), purpose of the research, methods to be used, how professional guidelines are being applied (if applicable) and use to which the results/data will be put.

Engaging linguistic assistance in dialogic collaboration to support learning in the zone of proximal development of young ESL learners at the upper primary-school level in Brunei Darussalam

The key intention of the proposed study is to examine how young learners of English as a second language (ESL) can be assisted to perform at a higher level of competence in their use of the target language during an interactive classroom task. The study intends to look at how, in classroom situations where learners are interacting with their peers of approximately equal levels of second language proficiency, it is possible for interaction during task performance to reliably generate input for them to learn from one another. To do this, the study proposes to use grammaring tasks: (i) to act as a stimulus to elicit children's production of the target language; (ii) to provide a meaningful context for learners "to grammar"; and (iii) to provide a platform for learners to interact, discuss and negotiate meaning. These tasks are designed to incorporate specific linguistic assistance to help learners develop their L2 linguistic and communicative competence.

An intervention-based study will be carried out in four primary schools. The target class level is Year 5. The study will employ the use of convenience sampling, given that the choice of schools participating in the study depends on the approval from the Brunei Ministry of Education. There will be three experimental groups and one control group. One experimental group will perform the basic grammaring tasks in pairs. The second group will work on the grammaring tasks with more linguistic assistance in pairs. The third experimental group will perform the basic grammaring tasks individually. The control group will receive the normal writing instruction, i.e. without the use of grammaring tasks, and they are required to work on the writing tasks individually. While all children will be involved in the English lessons, only children who are present for all pre- and post-tests and are not in the Special Education programme are included in the data analysis. Other information to be collected includes children's age, gender, overall class performance and English proficiency level (based on teacher observation and previous English test scores).

The main methods of the proposed study involve:

- (1) implementing pre-, interim, post- and delayed writing assessment to obtain quantitative data to determine the effects of the intervention, if any;
- (2) designing and implementing grammaring tasks with different levels of linguistic assistance to different groups of learners;
- (3) audio-recording participant talk during task implementation;
- (4) transcribing the talk;
- (5) coding instances of how learners support one another during peer interaction and how much support they receive from the tasks;
- (6) comparing groups based on interactional data analysis, and pre-, interim, post- and delayed tests; and
- (7) analysing participant talk during interaction to determine whether the quality of collaborative interaction influences the quality of the initial written products and performance on the tests.

Audio-recorded interactional data will be used to investigate how learners in this study jointly engage with grammaring tasks to produce written output. The written output of learners will also be analysed for morphosyntactic and lexical structures.

Importantly, the tasks that are created for this study are in line with the national syllabus (i.e. using the same topic/theme). This means that learners who choose to opt out of the study are still able to learn in class. The teacher will teach the class as a whole during the first part of the lesson. It is during the activity phase that the opted-out learners, instead of participating in grammaring tasks, will sit in a group to complete the exercises in their workbook. The language items will have been covered during the whole class instruction. Being in the classroom allows the learners to maintain interaction with the teacher and their classmates, and to ask questions regarding their work if they have any.

As this study employs a quasi-experimental design, all participating teachers will be given a debriefing session at the end of the study to ensure that they are aware of the learning gains, if any, resulting from the pedagogical intervention so that both experimental and control groups benefit from the study. Should teachers choose to engage their children with further grammaring lessons, children in the experimental and control groups will also be provided with the tasks after the debriefing session.

List all *sites where project will be conducted:	Year 5 classes in four primary schools		
Anticipated duration of project:	Between 4 and 5 months		
Anticipated start and end dates:	From 17 / 05 /2010 to 31 / 09 /2010		
Name and status (e.g. 3rd year undergraduate; post-doctoral research assistant) of others taking part in the project:	N/A		
External organisation funding the research (if applicable - see also Section D):	N/A		
	Does the funding body require some form of monitoring of the conduct of the research until completion (eg. annual ethical re-approval of the study)?	YES	NO
Please indicate what training on research ethics you have received, e.g. online training in ethics/human subject protection etc.	As part of our Foundations of Educational Research course, we were provided with training on <i>Conducting ethically responsible research</i> . I also attended a lecture on <i>Managing ethics in the social sciences</i> (as part of the Professional Training for Social Scientists).		

Section B

(Please put a tick in the yes/no column as appropriate to indicate your response).

1) <i>Does your study primarily aim to monitor and/or improve the performance of a particular service provider?</i>	YES	NO
		✓
2) <i>Will your conclusions be applicable wholly or primarily to that service provider?</i>	YES	NO
		✓
3) <i>Are you conducting your study on behalf of or at the request of a service provider?</i>	YES	NO
		✓

If you have answered 'yes' to any question in section B it is likely that your study is ***audit**, not ***research**. Please check the CUREC glossary and if your study is audit you need not submit your proposal for ethical scrutiny. If you have answered 'no' to all questions please proceed to section C.

Section C

(Please put a tick in the yes/no column as appropriate to indicate your response).

1) <i>Will the research involve *human participants recruited by means of their status as present or past NHS *patients or their relatives or carers or present or past NHS staff?</i>	YES	NO
		✓
2) <i>Will the research involve *personal data of any of the people listed in question C 1 above ?</i>	YES	NO
		✓
3) <i>Will the research in whole or part be carried out on NHS premises or using NHS facilities?</i>	YES	NO
		✓
4) <i>Does the research involve administering any drug, placebo, or other substances to participants in the European Union (EU)?</i>	YES	NO
		✓
5) <i>Does the research involve ionising radiation in the EU?</i>	YES	NO
		✓
6) <i>Does the research involve human genetic research in the EU?</i>	YES	NO
		✓
7) <i>Does the research involve magnetic resonance imaging in the EU?</i>	YES	NO
		✓

8) Does the research involve use of organs or other bodily material of past and present NHS patients?	YES	NO
		✓
9) Does the research involve any other *invasive procedure (Class A) not described above?	YES	NO
		✓
10) Does the research involve *human participants aged 16 and over who do not have *capacity to consent for themselves? [Please note that the definition of *capacity has been altered by the Mental Capacity Act 2005; see the Glossary on the CUREC website for further information]	YES	NO
		✓

If you have answered 'yes' to any question in section C please stop work on this checklist as you will need to submit your proposal to the appropriate NHS ethics committee. Further details may be obtained from the website <http://www.nres.npsa.nhs.uk>. Please submit the NHS Ethics Committee approval to the relevant IDREC officer for information when received.

If your research involves any of the above procedures but will be carried out by University of Oxford staff wholly outside the EU, your research will be reviewed by OXTREC (<http://www.tropicalmedicine.ox.ac.uk/oxtrecreframeset.htm>). If you have answered 'no' to all questions so far, please proceed to section D.

Section D

(Please put a tick in the yes/no column as appropriate to indicate your response).

1) Is the study to be funded by the US National Institutes of Health or another US federal funding agency?	YES	NO
		✓

If you have answered 'yes' to the question in section D please stop work on this checklist as you will need to submit your proposal to OXTREC which uses separate documentation (<http://www.tropicalmedicine.ox.ac.uk/oxtrecreframeset.htm>).

If you have answered 'no' to all questions so far, please proceed to section E.

Section E

(Please put a tick in the yes/no column as appropriate to indicate your response).

1) Are all the data about people to be used in your study previously collected anonymised data which neither you nor anyone else involved in your study can trace back to the individuals who provided them (e.g. census data, administrative data, secondary analysis)? Please refer to the definition of *personal data in the glossary and FAQ no. 6 for further guidance.	YES	NO
		✓

If you have answered 'yes' to the question in section E please stop work on this checklist as you do not need to secure ethical approval for your study. There is no need to submit any details to IDREC as such research does not constitute research involving human participants for review purposes.

If you have answered 'no' to all questions so far, please proceed to section F.

Section F

Methods to be used in the study (**tick** as many as apply: this information will help the committee understand the nature of your research and may be used for audit).

METHOD USED	PLEASE TICK
<i>Unstructured interview</i>	
<i>Semi-structured interview</i>	
<i>Structured interview</i>	
<i>Questionnaire</i>	
<i>Analysis of existing records</i>	✓
<i>Participant performs verbal/paper and pencil/computer based task</i>	✓
<i>Measurement/recording of motor behaviour</i>	
<i>Audio recording of participant</i>	✓
<i>Video recording or photography of participant</i>	✓
<i>Physiological recording from participant</i>	
<i>Participant observation</i>	
<i>Systematic observation</i>	
<i>Observation of specific organisational practices</i>	✓
<i>Other (please specify)</i>	

Section G

(Please put a tick in the yes/no column as appropriate to indicate your response).

See

1). Have you made arrangements to obtain written <i>*informed consent</i> from participants?	YES	NO
	✓	

2) Have you made arrangements to ensure that *personal data collected from participants will be held in compliance with the requirements of the Data Protection Act?	YES		NO
	✓		
3) If your research involves any use of *personal data obtained from a *third party, have you checked to ensure that the *third party has arrangements in place to permit disclosure?	Y	N/	NO
	E	A	
4) Does the research involve as participants *people whose ability to give free and informed consent is in question?	YES		NO
	✓		
5) Does the research involve any alteration of participants' normal patterns of sleeping, eating, or drinking?	YES		NO
			✓
6) Is there a significant risk that the research will expose participants to visual, auditory, or other environmental stimuli of a level or type that could have short- or long-term harmful physical effects?	YES		NO
			✓
7) Is there a significant risk that the research will induce anxiety, stress or other harmful psychological states in participants that might persist beyond the duration of the test/interview?	YES		NO
			✓
8) Does the research involve exposing participants to any physical or psychological hazard, beyond those of their usual everyday life, not covered by questions 6 and 7?	YES		NO
			✓
9) Does the research involve any *invasive procedure (Class B)?	YES		NO
			✓
10) Will the research elicit information from participants that might render them liable to criminal proceedings (e.g. information on drug abuse or child abuse)?	YES		NO
			✓
11) Does the research involve the *deception of participants?	YES		NO
			✓
12) Will the research require a participant to spend more than 2 hours in any single session on activities designed by the researcher (NB this time restriction does not refer to situations where participants are observed going about activities not devised by the researchers e.g. observation of lessons in schools)?	YES		NO
			✓
13) Will the research involve a significant risk of any harm of any kind to any participant not covered above?	YES		NO
			✓

If any of your answers in section G are in a shaded box, please complete section H.
If all your answers in section G are in the unshaded boxes, please complete section I.

Section H

One or more aspect(s) of your research project suggest(s) that it may pose risks to participants (see shaded box(es) ticked in section G).

<i>Are all the aspects of your project which caused you to tick a shaded box in section G fully covered by research protocol(s) which has/ve received IDREC/CUREC approval?</i>	YES	NO
	Please give IDREC protocol number (s). Please proceed to section I.	Please complete this form AND form CUREC/2 and submit both to the relevant Inter Divisional Research Ethics Committee. ✓
<i>If you answered NO to question 1) in Section G concerning informed consent but a section of the Code of Practice governing your research activity is relevant, are you going to apply the standard set out in the Code of Practice?</i>	Name of Code of Practice and section number: Please ensure that the description in section A indicates how the Code is applied and proceed to section I.	Please complete this form AND form CUREC/2 and submit both to the relevant Inter Divisional Research Ethics Committee. ✓

Section I

Complete this section only if you do not need to submit form CUREC/2.

I understand my responsibilities as principal researcher/supervisor/student researcher as outlined on p.1 of this form and in the CUREC glossary and guidance.

I declare that the answers above accurately describe my research as presently designed and that I will submit a new checklist should the design of my research change in a way which would alter any of the above responses so as to require completion of CUREC 2/full scrutiny by an IDREC. I will inform the relevant IDREC if I cease to be the principal researcher on this project and supply the name and contact details of my successor if appropriate.

Signed by principal researcher/supervisor/student researcher:.....

Date:.....

Print name (block capitals):.....

Signed by supervisor:.....(for student projects)

Date:.....

Print name (block capitals):.....

I understand the questions and answers that have been entered above describing the research, and I will ensure that my practice in this research complies with these answers.

Signed by associate/other researcher:

Print name (block capitals).....

Date

I have read the research project application named above. On the basis of the information available to me, I:

- (i) consider the principal researcher/supervisor/student researcher to be aware of her/his ethical responsibilities in regard to this research;
- (ii) consider that any ethical issues raised have been satisfactorily resolved or are covered by CUREC approved protocols, and that it is appropriate for the research to proceed without further formal ethical scrutiny at this stage (noting the principal researcher's obligation to report should the design of the research change in a way which would alter any of the above responses);
- (iii) am satisfied that the proposed project has been/will be subject to appropriate *peer review and is likely to contribute something useful to existing knowledge and/or to the education and training of the researcher(s) and that it is in the *public interest.
- (iv) [FOR DEPARTMENTS/FACULTIES WITH A DEPARTMENTAL RESEARCH ETHICS COMMITTEE (DREC) OR EQUIVALENT BODY - PLEASE DELETE IF NOT APPLICABLE] confirm that this checklist (and associated research outline) has been reviewed by the Department's Research Ethics Committee (DREC)/equivalent body, and attach the associated report from that body.

Signed:.....(**Head of department or nominee e.g Chair of DREC, Director of Graduate Studies for student projects**)

Print name (block capitals).....

Date:.....

Please send an electronic copy and a paper copy of this completed checklist to whichever of the IDRECs is more suitable (Social Sciences or Medical Sciences), keeping a copy for yourself.

Forms may be sent by email (without signature), where both the note of submission from the researcher and the note of endorsement from the supervisor/Head of Department are sent from a University of Oxford email address.

IDRECs and/or CUREC will review a sample of completed checklists and may ask for further details of any project.

FINAL CHECK

To prevent delay please check each of the following before submitting the application.

- Have you completed Section A and answered all relevant questions in Sections B-H? ☐✓
- Have you defined all technical terms and abbreviations used? ☐✓
- Have you included all questionnaires and participant information, consent forms, advertisements, and surveys to be used? ☐✓
- Have you included all relevant approvals and supporting letters? ☐✓
- Have you declared all potential conflicts of interest? ☐✓
- Are all pages (including appendices and attachments) numbered? ☐N/A
- Are all relevant declarations in Section I complete and any necessary authorisations obtained (by email or by signing the form)? ☐N/A

Revised May 2009

Appendix 15b: CUREC form 2

University of Oxford CENTRAL UNIVERSITY RESEARCH ETHICS COMMITTEE (CUREC)

Not all research project leaders need to fill in this form. **Before starting work on this form**, please fill in CUREC's checklist (CUREC/1) which will show if you need to complete this form. Please also ensure you have consulted the following CUREC guidance documents available on the CUREC website (<http://www.admin.ox.ac.uk/curec/resrchapp/index.shtml>):

- [Guidance on approval process](#)
- [Glossary](#)
- [FAQs](#)

Definitions of terms marked with an asterisk are to be found in CUREC's glossary and guidance.

SECTION 1: PROJECT TITLE, RESEARCHERS, AND CONTACT DETAILS

1. Person to whom IDREC/CUREC should direct correspondence.

*Student researcher

Title and name: Miss Juliana Shak

Appointment: Probationer Research Student

Department: Department of Education

Institution: University of Oxford

Address: Worcester College, Oxford OX1 2HB

Phone: 075 498 69868

e-mail: juliana.shak@education.ox.ac.uk

Will you need training to participate in this project?

☐ Yes ☒ No

FOR STUDENT RESEARCH PROJECTS ONLY

Name of Supervisor: Dr. Catherine Walter

2. Full project title and proposed starting date:

Engaging linguistic assistance in dialogic collaboration to support learning in the zone of proximal development of young ESL learners at the upper primary-school level in Brunei Darussalam

Proposed starting date: 17th May 2010

Office use only:

IDREC Ref. No. _____

Date of Approval: / /

Application date: / /

Approval Period: from / / to / /

Signature of IDREC approver: _____

Name (printed) and position of approver: _____

Date applicant informed of approval: / /

FAQs

FAQ

FAQs

3. Are you submitting this project to another ethics committee or has it been previously submitted to an ethics committee?

☐ Yes - provide details.

☒ No

If other relevant approvals for this research are required (e.g. from other universities' ethics committees) please attach them.

4. Have you made use of professional/CUREC guidelines in framing your research project and preparing documentation?

Note: the CUREC guidelines are available online (<http://www.admin.ox.ac.uk/curec/oxonly/protocols/guidelines.shtml>) or by emailing curec@admin.ox.ac.uk

☒ Yes - provide details.

☐ No – explain why not.

Following the BERA revised ethical guidelines for educational research (2004), participants will be provided with information regarding the study in both their home language and in English prior to the pedagogical intervention to ensure that they understand the purpose and process of the study. Informed consent will be sought from all relevant parties prior to data collection. Participants and their parents/guardians will be informed clearly that their participation in the study is voluntary and they have the right to withdraw from the study at any time. All data will be anonymised to protect the confidentiality of the participants. As this study employs a quasi-experimental design, all participating teachers will be given a debriefing session at the end of the study to ensure that they are aware of the learning gains, if any, resulting from the pedagogical intervention so that both experimental and control groups benefit from the study.

5. Researchers involved in this project

Please supply one completed copy of this box for each researcher.

*For each researcher who requires training to participate in this project, describe training on a **separate page** and include the name of the trainer(s).*

*Associate researcher/student researcher
Title and name: N/A
Appointment:
Department:
Institution:
Address:

Phone:	Fax:
e-mail:	
Role in this project: Qualifications and relevant experience for this project: Degree course (if relevant): Will this researcher be approved by the principal researcher as competent to obtain *informed consent from participants?	
Will this researcher need training to participate in this project? ☐ Yes ☐ No	

SECTION 2: PROJECT DESCRIPTION

6. Description of project

Please give a description (300-800 words) of your project to supplement the information already provided in Section A of the checklist (CUREC/1), detailing those aspects of the project which involve *human participants, particularly any aspect which is beyond already established and accepted techniques. Please attach all other documents (e.g. questionnaire, recruitment advertisements, participant information, and consent forms) that you plan to use in the study. **Please note that detailed scientific background is not required unless directly relevant to ethical issues.**

Engaging linguistic assistance in dialogic collaboration to support learning in the zone of proximal development of young ESL learners at the upper primary-school level in Brunei Darussalam

In recent years, one prominent trend in English as a second language (ESL) classroom instruction is the use of communicative tasks. Accordingly, these tasks provide copious opportunities for meaningful interactions and purposeful use of language. However, for such experiential use of language to take place successfully among young learners, in particular those with limited ESL exposure, is by no means an easy feat. Furthermore, the idea that language “emerges” from tasks appears to work well when there are opportunities for exchanges with native speakers as this can generate input for non-native speakers to learn from. In this way, there is transfer of knowledge between native and non-native speakers as they work together to solve linguistic problems. In a typical Bruneian ESL classroom, however, it is difficult to see how peer interaction during task performance can reliably generate input for ESL learners to learn from one another if their level of communicative proficiency in the second language progresses at rates equivalent to their peers. When “pushed” to communicate, these learners tend to either produce non-targetlike language or fall back on their first language. In addition, while task-based interaction may promote more accurate and fluent use of what has already been learnt, the acquisition of a new structure through the use of tasks may be problematic.

The study thus seeks to answer the main question of how, in an interactive classroom

task, ESL peers with limited linguistic resources can assist one another to perform at a higher level of competence. In order to do so, this study proposes to use grammaring tasks: (i) to act as a stimulus to elicit children's production of the target language; (ii) to provide a meaningful context for learners "to grammar"; and (iii) to provide a platform for learners to interact, discuss and negotiate meaning. These tasks are designed to incorporate specific linguistic assistance to help learners develop their L2 linguistic and communicative competence. Specifically, the study aims to address the following research questions:

1. To what extent is the linguistic assistance in the grammaring tasks successful in helping Bruneian pupils in Year 5 enhance their written linguistic and communicative performance?
2. Does peer negotiation of meaning in this population lead to better acquisition and quality of writing?
3. Does the nature of linguistic assistance impact acquisition and/or the quality of writing?
4. How do Bruneian pupils in Year 5, when put in pairs of approximately equal levels of L2 proficiency, assist each other in dialogic collaboration, both with and without targeted linguistic assistance?
5. For the two groups of children who work in pairs and receive linguistic assistance:
 - (i) is there any pattern in the choice of words from the learning log that are used in the final product?
 - (ii) If so, does the analysis of the interactions reveal any reasons for patterns found in research question 5(i)?
 - (iii) Does interaction that is more collaborative tend to lead to better learning?

An intervention-based study will be carried out in four primary schools. The target class level is Year 5. The study will employ the use of convenience sampling, given that the choice of schools participating in the study depends on the approval from the Brunei Ministry of Education. There will be three experimental groups and one control group. One experimental group will perform the basic grammaring tasks in pairs. The second group will work on the grammaring tasks with more linguistic assistance in pairs. The third experimental group will perform the basic grammaring tasks individually. The control group will receive the normal writing instruction, i.e. without the use of grammaring tasks, and they are required to work on the writing tasks individually. While all children will be involved in the English lessons, only children who are present for all pre- and post-tests and are not in the Special Education programme are included in the data analysis. Other information to be collected includes children's age, gender, overall class performance and English proficiency level (based on teacher observation and previous English test scores).

The main methods of the proposed study involve:

- (8) implementing pre-, interim, post- and delayed writing assessment to obtain quantitative data to determine the effects of the intervention, if any;

- (9) designing and implementing grammaring tasks with different levels of linguistic assistance to different groups of learners;
- (10) audio-recording participant talk during task implementation;
- (11) transcribing the talk;
- (12) coding instances of how learners support one another during peer interaction and how much support they receive from the tasks;
- (13) comparing groups based on interactional data analysis, and pre-, interim, post- and delayed tests; and
- (14) analysing participant talk during interaction to determine whether the quality of collaborative interaction influences the quality of the initial written products and performance on the tests.

Audio-recorded interactional data will be used to investigate how learners in this study jointly engage with grammaring tasks to produce written output. The written output of learners will also be analysed for morphosyntactic and lexical structures.

Importantly, the tasks that are created for this study are in line with the national syllabus (i.e. using the same topic/theme). This means that learners who choose to opt out of the study are still able to learn in class. The teacher will teach the class as a whole during the first part of the lesson. It is during the activity phase that the opted-out learners, instead of participating in grammaring tasks, will sit in a group to complete the exercises in their workbook. The language items will have been covered during the whole class instruction. Being in the classroom allows the learners to maintain interaction with the teacher and their classmates, and to ask questions regarding their work if they have any.

7. Literature search

If the research involves significant risk to the human participants please describe what literature searches have been undertaken to obtain information to aid risk reduction/management.

N/A

SECTION 3: RESEARCH INVOLVING CONTACT WITH *HUMAN PARTICIPANTS

If the project does NOT involve contact with*human participants, but only use of data about them, do NOT complete this section, but go to Section 4. If you are not completing Section 3 please delete it from your application to save paper.

8. Description of participants

How many participants will be involved in the project?

About 300 pupils

9. Details of participants

- (a) What types of people will be recruited e.g. students,* children, people with learning disabilities? [Please see the [Glossary](#) on the CUREC website for information on how the meaning of *capacity to consent has been altered by the

Intact classes of Year 5 learners in four primary schools

(b) What will be the age range of participants?

Between 9 and 11 years old

(c) How will the competence of participants to give *informed consent be determined?

Children will be provided with full explanation regarding the study in both their home language and in English prior to the pedagogical intervention. They will be given time to discuss among their peers, and then with the participating teacher, to ensure that they have understood the information and the impact of their decision to join the study, and to raise their concerns, if any.

(d) What are the *defining criteria for participation in the study?

In general, all Year 5 children in the selected schools will be involved in the English lessons. However, for data analysis, only children who are present for all pre- and post-tests and are not in the Special Education programme will be included in the data set.

10. Recruitment of participants

(a) Describe how, where, and by whom participants will be identified, approached, and recruited.

Pending approval from the Brunei Ministry of Education, Year 5 classes in four primary schools will be selected for the study. Following the informed consent from parents, children in these classes will be recruited as research participants.

(b) If your research involves any use of *personal data obtained from a *third party, describe the steps you have taken to ensure that the *third party has arrangements in place to permit disclosure.

Personal data to be collected include children's age, gender, overall class performance and English proficiency level (based on teacher observation and previous English test scores), and these will be obtained from the class teachers. The teachers will have obtained permission from the school to disclose the information to the researcher. The researcher too will approach the relevant school authority personally to ask their permission to use the stated personal data of children.

(c) Will any *unequal relationships exist between anyone involved in the recruitment and the potential participants?

☒ Yes

☐ No

If yes:

(i) Describe the nature of the unequal relationship.

Teacher and pupil relationship – pupils may feel obliged to take part in the study and do not understand that they have the right to withdraw from the research at any point.

(ii) Explain how ethical problems arising from the unequal relationship will be resolved.

1. Lessons in the study are structured such that they resemble children's normal classroom instruction, and children are to be taught by their English language teacher. The familiarity, or lesser degree of intrusiveness, will, to an extent, lessen the impact of the unequal relationship.
2. The researcher will make clear to all parents and children that participation in the study is voluntary and that they are allowed to dissent or withdraw should they no longer want to be involved in the study.
3. The researcher will also make certain that the participating teachers support the above statement.

(d) Describe any *financial or other rewards which will be offered to participants.

N/A

11. *Participant information

It is essential that written information is easily understandable by participants. Failure to provide this information in appropriate lay language is the most frequent reason for delays in ethical approval.

(a) Will participants receive **written** information about the project before giving their consent?

☐ ✓ Yes - please attach.

☐ No - give reasons.

Three sets of participant information will be provided: one for learners in the two experimental groups who are working in pairs (leaflet entitled *English grammaring lessons*), one for learners in the experimental group who are working on the tasks individually (leaflet entitled *English grammaring lessons*) and one for learners who are in the control group (leaflet entitled *English writing lessons*).

(b) Who will give the participants the information and how?

The researcher and the English language teachers will give children the information both their home language and in English prior to the pedagogical intervention.

(c) Does the research involve deliberate *deception of participants?

☐ Yes- explain why the real purpose of the research needs to be concealed and how and when participants will be told of the deception.

☒ No

(d) Please describe the basis on which you have decided how long participants will have to think about the information provided before giving consent.

Children will be given between three to five days to think about the information, depending on

how soon the researcher receives the approval from the Ministry of Education and the selected schools.

12. *Informed consent

(a) Will you obtain written consent?

☒ Yes - please attach *consent form.

☐ No - explain how consent will be obtained and recorded and why this method is used.

The researcher will obtain written consent from parents/guardians. Children are, however, reminded to discuss with their parents whether they want to join the study (based on the class and peer discussions, and the information given to them).

(b) If participants are unable to give valid consent, how and from whom will you obtain consent? [Please see the [Glossary](#) on the CUREC website for information on how the meaning of *capacity to consent has been altered by the Mental Capacity Act 2005]

The researcher will obtain written consent from parents/guardians.

(c) List those researchers who will, with the authorisation of the principal researcher (or supervisor in the case of student researchers), secure the consent of participants.

N/A

13. Consequences of participation

(a) What are the potential risks or actual ill effects of participation (if any) e.g. invasive procedures, distress, deception etc, and what will be done to minimise these risks

(i) to the participants?

N/A

(ii) to the researchers?

N/A

(iii) to others (e.g. the university, family)?

N/A

(b) Is there a need for support or counselling?

☐ Yes - describe the form of support or counselling and how, when, and by whom it will be conducted.

☒ No

(c) Is there a need for debriefing or follow-up discussion?

☒ Yes - describe the form of debriefing or follow-up discussion and how, when, and by whom it will be conducted.

☐ No

At the end of the study all participating teachers will be given a debriefing session by the researcher to discuss any learning gains resulting from the pedagogical intervention. Should teachers choose to engage their children with further grammar lessons, children in the experimental and control groups will also be provided with the tasks after the debriefing session.

(d) Are there any potential benefits to the participants?

☒ Yes - describe them below

☐ No

The study aims to help young ESL learners develop their linguistic and communicative competence.

14. *Adverse events

How will adverse events be monitored and reported?

Teachers are given the opportunity to raise their concerns during their weekly discussion with the researcher. Adverse events will also be reported to the researcher's supervisor.

15. Monitoring

Explain how and by whom (e.g. supervisor in the case of student research projects) the ethical aspects of the project will be monitored to ensure that they conform to the procedures set out in this application.

The researcher's supervisor will monitor the ethical aspects of the project.

SECTION 4: RESEARCH INVOLVING COLLECTION, USE, OR

*DISCLOSURE OF *PERSONAL DATA

Your project must meet the standards laid down in the Data Protection Act (1998) with respect to the collection, use, and storage of *personal data about *human participants.

Please delete questions or parts of questions that you are not required to answer to save paper.

16. Need I complete this section?

Does the project involve the collection, use or disclosure of personal information including sensitive and/or genetic information?

☐ No – you need not complete this section. **Go to Section 5.**

☐ ✓ Yes – you must answer questions in this section. **Go to Question 17.**

17. Type of activity proposed

Does the research involve:

(a) disclosure of personal information?

☐ Yes

☐ ✓ No

(b) collection of personal information?

☐ ✓ Yes – **go to Question 18**

☐ No – **go to Question 20**

18. Collection of information directly from individuals

(a) Does the project involve collection of information directly from individuals about themselves?

☐ ✓ No – **go to Question 19.**

☐ Yes – answer the following questions:

(b) Do the *participant information and the *consent form include the following:

the name of the study?	☐ Yes ☐ No
the name and status (e.g. doctoral student) of the researcher collecting the information and how to contact him/her?	☐ Yes ☐ No
the purpose of the study?	☐ Yes ☐ No
declarations that the participant has read the participant information sheet?	☐ Yes ☐ No
has had the opportunity to ask questions about the study and has received satisfactory answers to questions, and any additional details requested?	☐ Yes ☐ No
understands that s/he may withdraw from the study without penalty at any time by advising the researchers of this decision?	☐ Yes ☐ No
understands that this project has been reviewed by, and received ethics clearance through, the University of Oxford Central University Research Ethics Committee?	☐ Yes ☐ No
understands who will have access to personal data provided, how the data will be stored; and what will happen to the data at the end of the project?	☐ Yes ☐ No

agrees to participate in this study?	☐ Yes ☐ No
understands how to raise a concern and make a complaint?	☐ Yes ☐ No

If you answered 'no' to any of these questions, explain why this information has not been included in the participant information and the consent form.

(c) Are the consent form and participant information on headed letter paper which bears the name of the University and the name and address of the department to which the principal researcher is attached?

☐ Yes

☐ No - explain why not.

(d) Are the participant and the researcher who secures the consent required to sign, print and date their names?

☐ Yes

☐ No -explain why not.

19. Collection of information from a third party

(a) Does the project involve collection of information about an individual from a source other than the individual?

☐ No – **Go to Question 20.**

☐ ✓ Yes – complete the following sections.

(b) List the individuals or organisations from which information will be collected. If information will be collected from more than one source, state which information or records will be collected from each source.

Class teachers - children's age, gender, overall class performance and English proficiency level (based on teacher observation and previous English test scores)

(c) Have all organisations from which the information is to be collected agreed to provide the information or to allow access to the information?

☐ Yes - attach a copy of each letter of agreement. Provide details of any conditions imposed by the organisation(s) concerning the release of the information.

☐ ✓ No - explain how and when the agreement of the disclosing organisation will be obtained.

Prior to the commencement of data collection, the researcher will call a meeting and explain to the teachers the information needed (i.e. children's age, gender, overall class performance and

English proficiency level) and how it will be used (to compare results obtained in the study).

(d) Will the information be potentially or actually ascribable to an individual when it is received?

☐ ✓ No – go to Question 20.

☐ Yes – answer the following questions:

(e) Does the project involve collection of information without the consent of the individual to whom it relates?

☐ No – go to Question 20.

☐ Yes – answer the following questions:

(f) Give reasons why information will not be collected in a way which prevents its ascription to an individual.

(g) Why will consent not be obtained from the individual(s) whom the information describes? [Please see the [Glossary](#) on the CUREC website for information on how the meaning of *capacity to consent has been altered by the Mental Capacity Act 2005]

20. Form in which data are to be stored

Are the data to be kept

(a) with an open identifier i.e. in non-anonymised form ☐ Yes ☒ ✓ No

(b) as anonymised but potentially identifiable data ☒ ✓ Yes (only by the researcher)

(c) as anonymised, non identifiable data ☐ Yes ☒ ✓ No

21. Use or disclosure of information about individuals

(a) Does the project involve the use or disclosure of information potentially or actually ascribed to an individual?

☐ ✓ No – go to Question 22.

☐ Yes – answer the following questions

(b) Does the project involve use or disclosure of information without the consent of the individual whom the information describes?

☐ No – go to Question 22.

☐ Yes – answer the following questions:

(c) What are the specific purposes for which the information will be used?

(d) Is the purpose for which the information will be used related to the purpose for which the information was originally collected?

☐ Yes – give details.

☐ No – give details.

(e) Describe in detail which information or records will be disclosed to which organisations.

(f) Give reasons why information will not be used or disclosed in a way which prevents its ascription to an individual. (If the answer is the same as for question 19 (f), write ‘as above’.)

(g) Why will consent not be obtained from the individual(s) whom the information describes? (If the answer is the same as for question 19 (g), write ‘as above’.)

(h) Explain why the proposed use or disclosure of information is in the public interest. The public interest in the proposed research must substantially outweigh the public interest in respecting individual privacy.

22. Data collection, storage, and disposal

(a) How many records will be collected, used or disclosed? Specify the information that will be collected, used, or disclosed e.g. date of birth, medical history, number of convictions.

Number of records: 4

Type of information: children’s age, gender, overall class performance and English proficiency level (based on teacher observation and previous English test scores)

(b) How, where, and under what security arrangements will electronic and paper data be stored? Who will have and control access to the information?

Personal data will be identified using only a number code. The paper data will be kept in files in a locked filing cabinet while the electronic version will be stored in the researcher’s personal notebook which is password protected. Only the researcher will have access to the information.

(c) When, how and by whom will the information be disposed of?

The information will be disposed of by the researcher at the end of the D.Phil programme.

(d) How will the privacy of individuals be respected in any publication arising from this project?

All data will be anonymised to protect the confidentiality of the participants.

(e) Have you explained in the *participant information and *consent form that maintenance of confidentiality of information is subject to normal legal requirements?

☐ Yes

☒ No – explain why not.

It is not customary in Bruneian schools to include such legal requirements in consent forms or other written communication with parents. Including them in the participant information and consent form may leave parents with the impression that the current study is a more serious undertaking than it is.

23. Adverse and unforeseen events

How will adverse and unforeseen events relating to the collection, use, or disclosure of information be managed, monitored and reported?

Any adverse and unforeseen events will be immediately reported to the researcher's supervisor.

SECTION 5: MISCELLANEOUS ISSUES

24. *Conflict of interest

(a) Do researchers on this project have a financial or other interest in its conduct or outcomes?

☐ Yes – give details.

☒ No

(b) If there is a conflict of interest, have you declared it in your *participant information and *consent form?

☐ Yes

☐ No – explain why not.

N/A

(c) Are there any other potential conflicts of interest e.g. research findings that could compromise the researcher's relationship with the university?

No

25. *Peer review

Has this project been peer reviewed?

- ☒ Yes – explain by whom (e.g. by a, tutor, supervisor, funding body etc) and with what outcome
- ☐ No – explain why not.

The researcher's supervisor agreed to the project.

26. Funding

List all bodies and individuals from whom funding has been or will be sought.

Source	Amount in £	Status of Funds	
		Available	Applied for
N/A		Yes ☐ No ☐	Yes ☐ No ☐
		Yes ☐ No ☐	Yes ☐ No ☐

27. Reporting of results

(a) Will the project outcomes be made public at the end of the project?

- ☒ Yes – describe the intended report and how and to whom it will be made available.
- ☐ No – explain why not

The outcomes of the study will be presented in the D.Phil thesis. The researcher may also report the results of the study in articles written for publication in linguistics/education journals. The researcher may also report the outcomes in talks.

(b) Will a report(s) of the project outcomes (for example, individual or group data) be made available to participants at the end of the project?

- ☒ Yes – describe report and how it will be made available.
- ☐ No – explain why not.
- ☐ N/A

At the end of the study, during the debriefing session, there will be an oral report to the teachers in each school on learning gains, if any, resulting from the pedagogical intervention, and the influence of the researched tasks on the children's L2 performance.

28. Declaration by researchers

Full project title: Engaging linguistic assistance in dialogic collaboration to support learning in the zone of proximal development of young ESL learners at the upper primary-school level in Brunei Darussalam

I/We, the researcher(s) agree:

- To start this research project only after obtaining approval from IDREC/CUREC;
- To carry out this research project only if funding is adequate to enable it to be carried out according to good research practice and in an ethical manner;
- To provide additional information as requested by IDREC/CUREC before approval is secured and as research progresses;
- To maintain the confidentiality of all data collected from or about project participants;
- To notify IDREC in writing immediately of any proposed change which would increase the risks that any participant is exposed to and await approval before proceeding with the proposed change;
- To notify IDREC if the principal researcher on the project changes and supply the name of the successor;
- To notify IDREC in writing within seven days if any serious *adverse event occurs in the course of research;
- To use data collected only for the study for which approval has been given;
- To grant access to data only to authorised persons; and
- To maintain security procedures for the protection of personal data, including (but not restricted to): removal of identifying information from data collection forms and computer files, storage of linkage codes in a locked cabinet and password control for access to identified data on computer files.

Signed by student researcher:.....

Date:.....

Print name (block capitals) ...JULIANA SHAK

Signed by supervisor:.....(for student projects)

Date:.....

Print name (block capitals)...DR. CATHERINE WALTER.....

Signed by associate/other researcher:

Print name (block capitals).....

Date

29. Certification by * student researcher and head of department

Full project title: Engaging linguistic assistance in dialogic collaboration to support learning in the zone of proximal development of young ESL learners at the upper primary-school level in Brunei Darussalam

Certification by *principal researcher/supervisor/student researcher

I accept responsibility for the conduct of this research project.

I certify that all researchers and other personnel involved in this project are appropriately

qualified and experienced or will undergo appropriate training to fulfil their role in this project.

Signed by student researcher:.....

Date:.....

Print name (block capitals)...JULIANA SHAK.....

Acceptance by head of department/other senior member of the department if the principal researcher is the head of department

I have read the research project application named above.

On the basis of the information available to me, I judge the principal researcher/supervisor/student researcher to be aware of her/his ethical responsibilities in regard to this research. I am satisfied that the proposed project has been/will be subject to appropriate peer review and is likely to contribute to existing knowledge and/or to the education and training of the researcher(s) and that it is in the public interest.

Name of head of department/other senior member of the department (e.g Chair of DREC, Director of Graduate Studies for student projects):

Signature Date.....

FINAL CHECK

To prevent delay please check each of the following before submitting the application.

Have you answered all relevant questions in Sections 1-5? ☒

Have you defined all technical terms and abbreviations used? ☒

Have you included all questionnaires and participant information, consent forms, advertisements, and surveys to be used? ☒

Have you included all relevant approvals and supporting letters? ☒

Have you declared all potential conflicts of interest? ☒

Are all pages (including appendices and attachments) numbered? ☒

Have you completed the declaration by researcher(s)? ☒

Have you completed the certification by principal researcher and head of department? ☒

Revised July 2008

Appendix 16a: Information leaflet for children (English version)

UNIVERSITY OF OXFORD
Department of Education
15 Norham Gardens, Oxford OX2 6PY



English writing lessons for YOU



What is an English writing lesson?

You are invited to take part in an English project in your school. We want to help you learn English in a fun and active way. We use a writing activity in our lessons. This activity gives you the chance to write stories in English.

So, these writing lessons may help you to:

- write more clearly and with confidence
- write more in English during the lesson
- write better in English



Why have you been asked to join this project?

All your friends in Year 5 in your school are invited to join this project.

We want to help you and the other children in Year 5 to write well in English. We also want to give you the chance to share your ideas with your friends in English in class. We hope that the English writing lessons can help you do all these!

What will you be asked to do?

Your teacher will carry out an English writing lesson two times a week for 8-10 weeks. Each lesson will take an hour. During each lesson, you will:

- think of a story on your own for the activity.
- tell your story to a small group of friends.
- write a story at the end of the activity.



Your teacher may record your story so that we can listen to you and remember what you and your friends say.

Who is carrying out the project?

My name is Juliana Shak. I am studying at the University of Oxford. I want to find out how I can help children learn English in a fun way.

What do you need to do now?

You can choose whether you want to take part in the project or not. I hope you will be happy to take part in the English lessons. Even if you have said yes and you want to join the project, you can change your mind at any time.

If you have any questions about the lessons or the project, you can ask me or your teacher. Please talk to your parent or guardian about the project.

Hope you'll enjoy the lessons. Thank you for your help.

Appendix 16b: Information leaflet for children (Malay version)

UNIVERSITY OF OXFORD
Department of Education
15 Norham Gardens, Oxford OX2 6PY



Pelajaran penulisan bahasa Inggeris untuk awda



Apakah pelajaran penulisan bahasa Inggeris?

Awda dijemput untuk mengambil bahagian dalam projek Inggeris di sekolah awda. Kami ingin membantu awda belajar bahasa Inggeris dengan cara yang lebih menarik dan aktif. Kami menggunakan aktiviti yang memberi awda peluang untuk menulis karangan dalam bahasa Inggeris.

Pelajaran penulisan bahasa Inggeris bertujuan untuk:

- membantu awda melahirkan fikiran dengan lebih jelas dan berkeyakinan
- menggalakkan penggunaan bahasa Inggeris semasa menulis ketika belajar
- menumpuk kemahiran menulis



Mengapakah awda dipilih untuk menyertai projek ini?

Semua murid Tahun 5 di sekolah awda dijemput untuk menyertai projek ini.

Kami ingin membantu awda dan murid-murid Tahun 5 menguasai kemahiran menulis dalam bahasa Inggeris. Kami juga ingin memberi awda peluang untuk berkongsi fikiran (idea) bersama rakan dalam bahasa Inggeris. Kami harap pelajaran penulisan bahasa Inggeris akan dapat membolehkan awda berbuat demikian!

Bagaimanakah awda dilibatkan?

Guru awda akan mengadakan sesi pelajaran bahasa Inggeris dua kali seminggu selama 8-10 minggu. Setiap sesi akan berlangsung selama sejam. Dalam setiap sesi pelajaran awda akan:

- berfikir tentang cerita secara perseorangan demi menyelesaikan aktiviti.
- berkongsi cerita bersama rakan secara berkumpulan kecil.
- menulis sebuah cerita pada akhir aktiviti.



Hasil perkongsian cerita awda bersama rakan mungkin dirakam. Ini adalah supaya kami dapat mendengar dan ingat apa yang awda telah sampaikan kepada rakan semasa membuat aktiviti.

Siapa yang menjalankan projek ini?

Nama saya ialah Juliana Shak. Saya sedang belajar di University of Oxford. Saya ingin tahu bagaimana saya dapat membantu murid-murid belajar bahasa Inggeris dengan cara yang lebih menarik.

Apakah awda perlu buat masa ini?

Awda boleh memilih untuk mengambil bahagian dalam projek Inggeris atau tidak. Besarlah harapan saya agar awda mengambil bahagian dalam sesi pelajaran bahasa Inggeris. Sungguhpun awda nanti terlibat, awda boleh menarik diri bila-bila masa sahaja.

Jika awda mempunyai soalan mengenai pelajaran atau projek ini, sila bertanya saya atau guru awda. Jangan lupa berbincang dengan ibu bapa atau penjaga awda tentang projek ini.

Saya harap awda suka pelajaran bahasa Inggeris. Sekian, terima kasih.

Appendix 17a: Information leaflet for parents (English version)

UNIVERSITY OF OXFORD
Department of Education
15 Norham Gardens, Oxford OX2 6PY



Communicative English lessons for your child

Information for parents and guardians



What is a communicative English lesson?

A communicative English lesson is a specially designed lesson to help your child learn English in a fun and active way. The lesson uses a communicative activity which encourages children to talk to their friends and work together to write stories in English.

So, these communicative lessons aim to:

- help your child to express himself or herself more clearly and with confidence
- encourage your child to speak more in English during the lesson
- support your child's writing skills



Why has your child been asked to join this study?

All Year 5 children in your child's school are invited to join this study.

Children in Year 5 need to be able to write well in English. They also need to be given a lot of opportunities to share their ideas with their friends in English during whole-class and small-group discussions. Communicative English lessons give your child these opportunities!

What will your child be asked to do?

There will be a communicative English lesson twice a week for 8-10 weeks, and each lesson will take an hour. During each lesson, your child will:

- talk to a friend and share ideas in order to complete the activity.
- write a story with his or her friend at the end of the activity.



Your child's discussions with his or her friend may be audio-recorded by the teacher.

What happens to the information collected?

All information collected will be confidential. Your child's name and the name of the school will not be mentioned in the study, or in any information I give to other researchers.

Who is carrying out the study?

The study is being carried out by Juliana Shak, a Ph.D. student at the University of Oxford. She has received permission from the Brunei Darussalam Ministry of Education and the school to carry out this study. The study has also received ethical clearance from the University of Oxford.

A final note ...

I hope you will be happy for your child to take part in the English lessons. If your child decides to take part, he or she may choose to withdraw from the study at any time. Thank you for your help.

If you want to ask any questions about the study, you can phone me on 8785822.

You can also email me at juliana.shak@education.ox.ac.uk or juliana.shak@ubd.edu.bn, or email my supervisor at catherine.walter@education.ox.ac.uk.

Appendix 17b: Information leaflet for parents (Malay version)

UNIVERSITY OF OXFORD
Department of Education
15 Norham Gardens, Oxford OX2 6PY



Pelajaran bahasa Inggeris (berasaskan) komunikatif untuk anak biskita

Maklumat untuk ibu bapa dan penjaga



Apakah pelajaran bahasa Inggeris (berasaskan) komunikatif?

Pelajaran bahasa Inggeris (berasaskan) komunikatif merupakan pelajaran yang dibentuk khusus untuk membantu anak biskita belajar bahasa Inggeris dengan cara yang lebih menarik dan aktif. Pelajaran ini menggunakan aktiviti komunikatif. Aktiviti ini menggalakkan anak biskita berbincang sesama rakan and menulis karangan.

Rumusnya, pelajaran bahasa Inggeris (berasaskan) komunikatif bertujuan untuk:

- membantu anak biskita melahirkan fikiran dengan lebih jelas dan berkeyakinan
- menggalakkan penggunaan bahasa Inggeris semasa bertutur ketika belajar
- menampung kemahiran menulis



Mengapakah anak biskita dipilih untuk menyertai penyelidikan ini?

Semua murid Tahun 5 di sekolah anak biskita dijemput untuk menyertai penyelidikan ini.

Murid-murid Tahun 5 perlu menguasai kemahiran menulis dalam bahasa Inggeris. Mereka juga perlu diberikan banyak peluang untuk berkongsi fikiran (idea) bersama rakan dalam bahasa Inggeris baik ketika perbincangan keseluruhan kelas mahupun secara berkumpulan kecil. Pelajaran bahasa Inggeris (berasaskan) komunikatif membolehkan anak biskita berbuat demikian!

Bagaimanakah anak biskita dilibatkan?

Sesi pelajaran bahasa Inggeris akan diadakan dua kali seminggu selama 8-10 minggu dan setiap sesi akan berlangsung selama sejam. Dalam setiap sesi pelajaran anak biskita akan:

- berbincang dengan seorang rakan dan berkongsi fikiran dengannya demi menyelesaikan aktiviti.
- menulis sebuah cerita dengan rakan pada akhir aktiviti.
- dipantau secara berterusan oleh guru. Hasil perbincangannya bersama rakan akan dirakam.



Apakah yang akan berlaku terhadap maklumat yang dikumpul?

Segala maklumat yang direkodkan dianggap sulit. Begitu juga dengan nama anak biskita dan nama sekolah, tidak akan didedahkan sepanjang penyelidikan ini atau dalam sebarang maklumat yang saya sampaikan kepada penyelidik lain.

Siapa yang menjalankan penyelidikan ini?

Penyelidikan ini dijalankan oleh Juliana Shak yang kini sedang mengikuti pengajian ijazah Doktor Falsafah (Ph.D) di University of Oxford. Beliau telah menerima kebenaran daripada pihak Kementerian Pendidikan Negara Brunei Darussalam dan pihak sekolah terbabit untuk melaksanakan penyelidikan ini. Penyelidikan ini juga telah mendapat kelulusan etika dari University of Oxford.

Akhir kata ...

Besarnya harapan saya agar biskita membenarkan anak biskita mengambil bahagian dalam sesi pelajaran bahasa Inggeris serta terima bual jika mereka dijemput. Sungguhpun anak biskita nanti terlibat, mereka tetap berhak untuk menarik diri bila-bila masa sahaja sepanjang penyelidikan ini. Untuk semua ini, saya dahului dengan ucapan terima kasih dan saya menghargai sokongan biskita.

Jika biskita mempunyai sebarang pertanyaan mengenai penyelidikan ini, sudah berhubung dengan saya melalui talian 8785822, atau email saya juliana.shak@education.ox.ac.uk atau juliana.shak@ubd.edu.bn, atau email penyelia saya catherine.walter@education.ox.ac.uk.

Appendix 18a: Letter to parent/guardian (English version)

DEPARTMENT OF EDUCATION
15 Norham Gardens, Oxford, OX2 6PY
Tel: +44(0)1865 274024
Fax: +44(0)1865 274027
general.enquiries@education.ox.ac.uk
www.education.ox.ac.uk



Dear Parent/Guardian,

English writing lessons

I am writing to invite your child to take part in my research study that I am carrying out at Sekolah Rendah (). All the other children in Year 5 in your child's school are also invited to join the study.

It is important that young children are given opportunities to write stories in English. Sometimes we find children having difficulties when they have to write in full sentences. I am conducting a research study to find out how children can develop their English language. This study uses a kind of language activity where children are encouraged to write stories. It also gives them the opportunity to share their ideas in English in class. This study may be helpful for our children, and that is why Sekolah Rendah () has agreed to help.

I have already been to the school to tell your child's class about the research. I also gave each child a leaflet, and I enclose another leaflet for you with this letter. This may help you to discuss the research with your child. I hope that you will be happy for your child to take part in the English lessons. Before you decide, it is important that you understand how your child will be involved in this study. Please take some time to read through the information on the leaflet and to talk to your child about it.

What do you do now?

Please let me know if you are happy for your child to take part by completing the consent form and returning it to the school. If you choose not to have your child take part in the study, please return the form stating this and I shall not contact you again. You can also withdraw your child from the research at any time, and it will not interfere with your child's learning in the classroom. Children who do not take part in the study will receive their normal English writing exercises, and I will not collect the work they do during the lessons.

What happens if your child takes part?

There will be an English lesson twice a week for eight to ten weeks. Each lesson will take an hour. If you agree, your child will be asked to do some writing tasks on his or her own. Your child will also be asked to tell his or her story to a group of friends. This may be audio-recorded by the teacher. This is for me to find out what children do when they work on the task.

I will also ask the teacher for information about your child's performance in English, and this includes teacher observation and previous test scores. All information collected will be confidential and stored securely. Your child's name and the name of the school will not be mentioned in the research, or in any information I give to other researchers.

What do you need to do now?

If you have any questions about this research, please do not hesitate to contact me on 8785822 or email juliana.shak@education.ox.ac.uk. Also, if you have any complaints about this project you can contact my supervisor, Dr. Catherine Walter at catherine.walter@education.ox.ac.uk.

Thank you very much for your help.

Yours sincerely,
Juliana Shak

Appendix 18b: Letter to parent/guardian (Malay version)

DEPARTMENT OF EDUCATION
15 Norham Gardens, Oxford, OX2 6PY
Tel: +44(0)1865 274024
Fax: +44(0)1865 274027
general.enquiries@education.ox.ac.uk
www.education.ox.ac.uk



Kepada:
Ibu bapa/Penjaga Murid

Tuan/Puan,

Pelajaran penulisan bahasa Inggeris

Dengan penuh hormat, sukacita saya memaklumkan bahawa satu penyelidikan akan dikendalikan di Sekolah Rendah (). Sehubungan itu, saya memohon persetujuan daripada pihak tuan/puan supaya anak abiskita dapat dilibatkan dalam penyelidikan tersebut. Semua murid Tahun 5 dijemput untuk menyertai penyelidikan ini.

Kanak-kanak perlu diberikan banyak peluang untuk menulis karangan dalam bahasa Inggeris. Kadang-kadang mereka didapati mengalami kesukaran ketika membentuk ayat. Untuk makluman tuan/puan, saya akan melaksanakan satu penyelidikan tentang bagaimana kanak-kanak dapat menguasai bahasa Inggeris. Penyelidikan ini menggunakan aktiviti di mana kanak-kanak digalakkan untuk menulis karangan. Manfaat penyelidikan ini antara lain adalah untuk memberi peluang kepada anak abiskita untuk belajar dan menggunakan bahasa Inggeris. Untuk pengetahuan abiskita, Sekolah Rendah () telah bersetuju untuk membantu pelaksanaan kajian ini.

Penerangan terperinci tentang penyelidikan ini telah disampaikan kepada murid-murid Tahun 5 di sekolah berkenaan. Di samping itu, risalah telah diedarkan kepada setiap murid. Risalah untuk ibu bapa atau penjaga juga terlampir bersama surat ini. Risalah tersebut diharapkan akan dapat memudahkan perbincangan tuan/puan bersama anak abiskita mengenai penglibatan mereka dalam penyelidikan ini. Besarlah harapan saya agar tuan/puan membenarkan anak abiskita mengambil bahagian dalam pelajaran bahasa Inggeris. Sebelum tuan/puan membuat sebarang keputusan, tuan/puan perlu memahami bagaimana anak abiskita dilibatkan dalam penyelidikan ini. Sudilah meluangkan sedikit masa untuk membaca risalah tersebut dan berbincang maklumat mengenai penyelidikan ini dengan anak abiskita.

Apakah yang tuan/puan boleh lakukan masa ini?

Sudilah kiranya tuan/puan mengembalikan borang kebenaran kepada pihak sekolah dengan menyatakan sama ada anak abiskita diberi kebenaran untuk mengambil bahagian dalam pelajaran bahasa Inggeris atau tidak. Jika tuan/puan memilih untuk tidak melibatkan anak abiskita dalam penyelidikan ini, sila nyatakan dalam borang tersebut dan tuan/puan tidak akan dihubungi lagi. Jika tuan/puan memilih untuk memberhentikan penglibatan anak abiskita semasa penyelidikan sedang dijalankan, keputusan abiskita tetap dihormati. Untuk pengetahuan, pembelajaran asal anak abiskita di bilik darjah tidak akan terganggu sepanjang kajian ini. Murid-murid yang tidak terlibat dalam penyelidikan ini akan diberi latihan menulis bahasa Inggeris seperti biasa dan hasil kerja mereka tidak akan dikutip.

Apakah yang akan terjadi jika anak abiskita menyertai penyelidikan ini?

Sesi pelajaran bahasa Inggeris akan diadakan dua minggu sekali selama lapan hingga sepuluh minggu dan setiap sesi berlangsung selama satu jam. Sekiranya tuan/puan bersetuju, anak abiskita akan mengikuti beberapa sesi aktiviti menulis secara perseorangan. Anak abiskita juga diberi peluang untuk berkongsi cerita bersama rakan secara berkumpulan kecil. Hasil perkongsian cerita mereka mungkin dirakam. Ini adalah untuk membolehkan saya mendapatkan maklumat mengenai apa yang sedang berlaku semasa kanak-kanak menyelesaikan aktiviti.

DEPARTMENT OF EDUCATION
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Sehubungan itu, maklumat mengenai pencapaian anak abiskita dalam bahasa Inggeris akan diperoleh daripada guru dan ini termasuk pemerhatian guru dan markah ujian yang lalu. Segala maklumat yang dikutip dianggap sulit dan disimpan dengan selamat. Nama anak abiskita dan nama sekolah tidak akan didedahkan sepanjang penyelidikan ini atau dalam sebarang maklumat yang saya sampaikan kepada penyelidik lain.

Apakah yang tuan/puan perlu lakukan masa ini?

Jika tuan/puan ada sebarang pertanyaan mengenai penyelidikan ini, sila hubungi saya melalui talian 8785822 atau email juliana.shak@education.ox.ac.uk, dan jika ada sebarang aduan mengenai projek ini sila hubungi penyelia saya Dr. Catherine Walter melalui catherine.walter@education.ox.ac.uk.

Kerjasama dan sokongan daripada pihak tuan/puan amatlah saya hargai.

Sekian, terima kasih.

Dengan hormat,
Juliana Shak

Appendix 19a: Parent/guardian consent form (English version)

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Parent/Guardian Consent Form **English writing lessons**

I, _____ parent/guardian of _____
have read and understood the information given to me, and I have had the opportunity to ask
questions.

I understand that there will be an English lesson twice a week for eight to ten weeks, and each
lesson will take an hour. I understand that my child will be asked to do some writing tasks on
his or her own and that his or her stories told to a group of other children may be audio-
recorded. I also understand that my child's work will be collected by the researcher.

I understand that the researcher will ask the teacher for information about my child's
performance in English, and this includes teacher observation and previous test scores.

I understand that the information collected during this study will be kept confidential. I also
understand that my child's name will not be used in the research, or in any information that is
given to other researchers.

I **WANT / DO NOT WANT** my child to take part in this research.

Signature of Parent/Guardian: _____

Date: _____

Name of researcher: Juliana Shak

Signature of researcher: _____

Date: _____

Appendix 19b: Parent/guardian consent form (Malay version)

DEPARTMENT OF EDUCATION
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**Borang Kebenaran Ibu Bapa/Penjaga
Pelajaran penulisan bahasa Inggeris**

Saya _____ ibu bapa/penjaga kepada _____
telah membaca dan memahami maklumat yang telah diberikan kepada saya. Saya juga
berpeluang untuk bertanya soalan berkaitan penyelidikan ini.

Saya faham bahawa sesi pelajaran bahasa Inggeris akan diadakan dua kali seminggu selama
lapan hingga sepuluh minggu dan setiap sesi berlangsung selama satu jam. Saya faham bahawa
anak saya akan mengikuti beberapa sesi aktiviti menulis secara perseorangan dan hasil
perkongsian cerita anak saya bersama rakan mungkin dirakam. Saya juga faham bahawa hasil
kerja anak saya akan dikutip oleh penyelidik.

Saya faham bahawa maklumat mengenai pencapaian anak saya dalam bahasa Inggeris akan
diperoleh daripada guru dan ini termasuk pemerhatian guru semasa pengajaran serta markah
ujian yang lalu.

Saya faham bahawa maklumat yang dikutip sepanjang penyelidikan ini dianggap sulit. Saya
juga faham bahawa nama anak saya tidak akan didedahkan sepanjang penyelidikan ini atau
dalam sebarang maklumat yang disampaikan kepada penyelidik lain.

Saya **BERSETUJU / TIDAK BERSETUJU** untuk melibatkan anak saya dalam penyelidikan ini.

Tandatangan ibu bapa/penjaga: _____

Tarikh: _____

Nama penyelidik: Juliana Shak

Tandatangan penyelidik: _____

Tarikh: _____

Appendix 20: Writing scale

The table below shows the score category descriptions for the four criteria used to rate narrative writing in the present study. This fifteen-point rating scale is taken from the Brunei NSSCME writing scale.

Score category descriptions for the four writing criteria

Level	Score	Quality of ideas	Story shape and structure	Grammar	Vocabulary and spelling
5	15 (E)	Ideas are imaginative with details selected for dramatic effect. Characters have some depth.	Story line is clearly developed. It flows well and is easy to follow. Resolution may be unpredictable and/or unusual.	Sentences – controls a variety of sentence constructions, including some complex sentences with few grammatical errors.	Vocabulary – deliberately attempts to use a wide range of vocabulary to make descriptions engaging. May include some similes, idiomatic expressions and emotive language.
	14 (D)	Setting and action – well developed. Reflection or insight may be evident and articulated.	Paragraphs used to effectively sequence the ideas in the story.	Verb tense and form – all correct. Connective devices – uses a variety of connective devices to enhance cohesion.	Spelling – correct spelling of most words with difficult or unusual patterns.
	13 (B)	Sense of audience – well proven. Engagement of reader – high level.		Punctuation – mostly accurate.	Errors are mainly minor and do not interfere with readability, e.g. failing to double a letter.
4	12 (E)	Ideas show some imagination and thought. Characters – attempts at development, e.g. use of direct speech.	Story line is developed with an introduction and complication. Flow may be clumsy at times. Episodes are mainly connected into a coherent whole.	Sentences – uses a variety of simple and compound sentence constructions that are mostly correct.	Vocabulary – attempts to use a range of interesting vocabulary including less familiar words to elaborate descriptions.
	11 (D)	Setting and action – attempts to develop these.	Resolution – basic level.	Verb tense and form – mainly correct. Connective devices – uses a range of connective devices, e.g. <i>when, after, before, because, or, in the morning</i> .	Spelling – correct spelling of many words with more difficult patterns. Most errors involve substitution of plausible letter sequences.
	10 (B)	Sense of audience – attempts to create some sense of drama. Engagement of reader – good level.	Paragraphs – good attempt to structure the story into paragraphs, each with a clear focus.	Punctuation – only a few errors.	
3	9 (E)	Ideas are developed into a simple but stereotyped story with relevant details. Characters – described in a brief, predictable way.	Story line shows a basic understanding of shaping a story. The introduction attempts to set the scene. The complication is described at a simple level. The story may be a series of undeveloped events.	Sentences – uses a variety of simple sentences. Most sentences are correct.	Vocabulary – uses a variety of familiar vocabulary including some topic-specific words. Some attempt to detail descriptions.
	8 (D)	Setting and action – only brief development.	Resolution – may be missing.	Verb tense and form – simple verb tense and forms are mainly correct, but some errors in more complex forms.	Spelling – correct spelling of some words with more difficult patterns.
	7 (B)	Sense of audience – fair. Engagement of reader – fair level.	Paragraphs – limited attempt to organise story into paragraphs (at least two paragraphs).	Connective devices – uses simple connective devices to join ideas. Punctuation – some inconsistencies and inaccuracies, e.g. stray capital letters, missing full stops.	Errors in complex words are phonetically plausible and represent all syllables, but may not reflect common patterns in English.

2	6 (E)	Ideas – limited, inconsistent and/or incomplete. Many ideas may be unnecessary. Sequence is related to the prompt.	Story line – very simple, flat story line with some relevant details. Little sense of a complication.	Sentences – uses short, simple sentences, or run-on simple sentences with little variety. Some errors in simple sentence structure.	Vocabulary – uses a variety of common words in simple descriptions. May use some topic-specific foreign words.
	5 (D)	Characters – basic attempt or outline only.	Resolution – may end abruptly with no resolution.	Verb tense and form – often incorrect.	Spelling – uses correct spelling of most common words. May have extensive spelling errors in words with more difficult patterns.
	4 (B)	Setting and action – little if any development. Sense of audience – limited. Engagement of reader – limited.	Paragraphs – missing or inaccurate.	Connective devices – mostly missing. Limited attempt to ideas, e.g. mainly repeats <i>and then</i> . Punctuation – limited attempt at basic punctuation.	Errors approximate phonetic sounds but may include omission of syllables. Most words can be deciphered.
1	3 (E)	Ideas – contains a list of words or some basic ideas relevant to the prompt. May be copied from the prompt. Some ideas may be unrelated or irrelevant to the task.	Story line – disjointed and disconnected. Details may contribute little to the story. Little shape.	Sentences – attempts at simple or compound clauses are mainly incorrect or incomplete.	Vocabulary – mainly uses a few simple, common words. Descriptions are basic and limited. May frequently use foreign words.
	2 (D)	Characters – few if any details.	Resolution – none.	Verb tense and form – many verb tense and form errors.	Spelling – errors in many common words. Some words may be unrecognisable.
	1 (B)	Setting and action – may contain a short outline of a simple event (few details). Sense of audience – none. Engagement of reader – none.	Paragraphs – none.	Connective devices – none. Punctuation – little or no correct punctuation.	
0	0	Insufficient evidence, including unreadable. Too brief. May use drawings. Not written in English.	Insufficient evidence, including unreadable. Too brief. May use drawings. Not written in English.	Insufficient evidence, including unreadable. Too brief. May use drawings. Not written in English.	Insufficient evidence, including unreadable. Too brief. May use drawings. Not written in English.

B refers to Beginning; D refers to Developing; E refers to Expanding.

Appendix 21: Transcription conventions

Transcription conventions

Symbol	Description
P1A12	P=Pupil; 1=Experimental Group 1; A=Pair A (high ability);12=Pupil 12
[	To show the point at which a current talk is overlapped by another speaker's talk
=	To show that a current talk is followed immediately by another speaker's talk
(.)	Pause of not more than 1 second
(#)	Timed pause. Length of silence given in seconds
—	Speaker's stress on a word by varying pitch and/or volume
:	Prolongation of sound within a word
-	A word that is abruptly ended
()	Transcriber's inability to hear what was said
(word)	Transcriber's interpretation of possible words spoken by the speaker
{gloss}	Transcriber's interpretation of learner English or gloss
(())	Transcriber's descriptions of the talk and/or context
.	To show a stopping fall in tone
,	To show a continuing intonation
?	To show a rising intonation
<i>Italics</i>	Text in Malay
<translation>	Translation from Malay

Appendix 22: An example of the analysis of learner dialogue

This dialogue is taken from a dyad in the DyadicEA Group performing a narrative task in Week 6 (Day 1). The lesson was based on the *Friendly Faridah and the lost kitten* task.

[*P1B3 refers to: P = Pupil, 1 = Class 1 (Dyadic Enhanced Linguistic Assistance), B = Pair B (high ability), 3 = Pupil 3]

Turn	Pupil	Dialogue	CRE/LRE	Peer assistance	Use of resource
1	*P1B3	: Hello, my name is xxx.			
2	P1B11	: Hello, my name is xxx.			
3	P1B3	: In my learning log I have named the kitten Sotong, brought, happy, played, found a box, fell asleep, hid the kitten, classroom, meow, pulled the cloth away. How about you?			
4	P1B11	: I have while, was walking, school, a kitten, Sotong, played, begin, teacher, classroom, sound.			
5	P1B3	: We have two similar words, that was played and classroom.			
6	P1B11	: Yes. I think, how about, one morning (.) one morning, yes.			
7	P1B3	: ((laughs)) One morning? How about one <u>clear</u> morning? Or one <u>hot</u> morning?			
8	P1B11	: One cold morning? One rainy morning? Why you always say clear?			
9	P1B3	: Clear morning. It's very fun.			
10	P1B11	: Yes, I like that too. ((laughs))			
11	P1B3	: One clear morning			
12	P1B11	: Yes?			
13	P1B3	: Friendly Faridah (2) I think one morning <u>while</u> Friendly Faridah was walking to school, she heard a sound from (.) from a nearby dustbin.			
14	P1B11	: And found a kitten. She took out a (.) kitten			
15	P1B3	: A kitten? She took out a kitten? ((laughs))			
16	P1B11	: She took out a=			
17	P1B3	: =how about a fish meat?			
18	P1B11	: Fish meat? I don't think so. I think it's originally <i>sotong</i> <cuttlefish> or cuttlefish. Because the kitten's name is already Sotong.			
19	P1B3	: How about we change the name?			
20	P1B11	: Ok. I like that.			
21	P1B3	: How about erm, she took out a corn			
22	P1B11	: Huh? Yes? And?			
23	P1B3	: and took some pieces from the corn and put it near the kitten.			

Turns 6-11, Acting expert = P1B3

Lexical LRE, appropriate
Requested, providing alternative, accepted, short

Turns 14-18, Acting expert = P1B3

Idea-based CRE, appropriate
Unrequested, asking question to point out, rejected with justification

Turns 19-24, Acting expert = P1B3

Idea-based CRE, appropriate
Unrequested, proposing alternative, accepted with suggestion

24	P1B11	:	I think, she (2) it eats all the corn. The kitten eats all the corn. I think the kitten no (.) not enough. I think Friendly Faridah give (.) gave <u>all</u> the corn.	
25	P1B3	:	How about Friendly Faridah's food?	<u>Turns 25-36, Acting expert = none</u> <i>Idea-based</i> <i>Mutual</i> <i>CRE,</i> <i>contribution,</i> <i>appropriate</i> <i>asking question</i> <i>for self,</i> <i>accepted with</i> <i>suggestion</i>
26	P1B11	:	Huh?	
27	P1B3	:	Friendly Faridah's food?	
28	P1B11	:	But Friendly Faridah's food is the <u>corn</u> .	
29	P1B3	:	Yeah, but when school break, what does Friendly Faridah eat?	
30	P1B11	:	I don't know.	
31	P1B3	:	I think (3) how [about	<u>Turns 32-34, Acting expert = P1B3</u> <i>Lexical LRE,</i> <i>Unrequested,</i> <i>inappropriate</i> <i>correcting,</i> <i>accepted,</i> <i>repeated</i>
32	P1B11	:	[A:h, how about Friendly Faridah has two sticks of corn?	
33	P1B3	:	Sticks of corn? Two corn.	
34	P1B11	:	Two corn.	
35	P1B3	:	Mm, she gave one corn to the kitten.	
36	P1B11	:	Yes. That's what I mean.	
37	P1B3	:	Mm, nice story. The kitten ate all of the corn. My goodness, said Friendly Faridah.	<u>Turns 37-39, Acting expert = P1B11</u> <i>Lexical LRE,</i> <i>Unrequested,</i> <i>appropriate</i> <i>proposing</i> <i>alternative,</i> <i>accepted, short</i>
38	P1B11	:	How about, <u>oh</u> my goodness?	
39	P1B3	:	Mm, nice. Thanks for the idea.	
40	P1B11	:	You're welcome.	
41	P1B3	:	She named the kitten Jagung. ((laughs))	
42	P1B11	:	How about <i>Manis</i> ? <Sweet?>	
43	P1B3	:	<i>Manis</i> ? <Sweet?> ((laughs))	<u>Turns 41-44, Acting experts = both</u> <i>Idea-based</i> <i>Unrequested,</i> <i>CRE,</i> <i>proposing</i> <i>appropriate</i> <i>alternative,</i> <i>accepted with</i> <i>justification</i>
44	P1B11	:	((laughs)) No, no, no, no. Jagung, Jagung, Jagung. It's like our teacher's cat's name.	
45	P1B3	:	She brought Jagung to school.	
46	P1B11	:	Why?	
47	P1B3	:	Because her house were at (3) because her home (2) because her house was very <i>jauh</i> . <far.>	
48	P1B11	:	so far	
49	P1B3	:	A::h, so far. That's why she brought the kitten to school.	<u>Turns 45-56, Acting expert = P1B3</u> <i>Idea-based</i> <i>Requested,</i> <i>CRE,</i> <i>explaining,</i> <i>appropriate</i> <i>accepted with</i> <i>justification (sad</i> <i>at Turn 54)</i>
50	P1B11	:	But why? She can put the kitten (3)	
51	P1B3	:	in a box?	
				<u>Turns 47-49, Acting expert = P1B11</u> <i>Lexical LRE,</i> <i>Requested,</i> <i>Use of</i> <i>appropriate</i> <i>telling,</i> <i>L1</i> <i>accepted,</i> <i>repeated</i>

52	P1B11	:	Eh, or on some bushes.	
53	P1B3	:	Then the kitten will be hungry again. When nobody give the kitten food.	
54	P1B11	:	O:h, that's very, very sad.	
55	P1B3	:	Ok. That's why she brought the kitten to school.	
56	P1B11	:	Yes.	
57	P1B3	:	Friendly Faridah's friends was happy and played with the kitten.	
58	P1B11	:	Moody Mimi found a box.	<u>Turns 58-62, Acting expert = P1B3</u> Lexical LRE, Unrequested, appropriate telling, rejected with justification
59	P1B3	:	Moody Mimi found a big container.	
60	P1B11	:	Container? I don't think so.	
61	P1B3	:	A big, big, big one. Big.	
62	P1B11	:	I think it's still the box and she put some cotton.	
63	P1B3	:	No, no, no. How about, she found the box and put some grass at the box? Because cats can eat grass.	<u>Turns 58-63, Acting experts = both</u> Idea-based Unrequested, CRE, telling, abandoned rejected with suggestion
64	P1B11	:	I think (.) I think (.) they played until the kitten's tired (.) feel very tired. And then the kitten fell asleep.	
65	P1B3	:	Mm. Then Friendly Faridah put the kitten=	
66	P1B11	:	=on the box.	<u>Turns 66-75, Acting experts = both</u> Idea-based Mutual CRE, contribution, appropriate working together, accepted, short
67	P1B3	:	How about we change the box to the (.) in her table?	
68	P1B11	:	Her table?	
69	P1B3	:	In her desk.	<u>Turns 69-71, Acting expert = P1B3</u> Lexical LRE, Requested, appropriate explaining, accepted, not verbalised
70	P1B11	:	Desk?	
71	P1B3	:	Here. ((P shows what he means by in her desk.)) Then when the lesson started the teacher came into classroom.	
72	P1B11	:	How about Friendly Faridah put her cat in she's bag?	
73	P1B3	:	Nice. But a:h ok, ok, ok. Erm, how the kitten get breath?	
74	P1B11	:	They have tiny hole in here.	
75	P1B3	:	Ok. When the lesson started Friendly Faridah's teacher heard a cat sound. Meow, meow, meow, meow. She wanted to check ev- every student's bag. Then Friendly Faridah said	<u>Turns 75-77, Acting expert = P1B11</u> Idea-based Unrequested, CRE, telling, appropriate rejected with suggestion
76	P1B11	:	I think Friendly Faridah said to the teacher that she want to go to the toilet.	
77	P1B3	:	Nah. How about (.) that was me. That sounded like a kitten. Meow, meow.	
78	P1B11	:	And then (2) the lesson's	
79	P1B3	:	the lesson already started.	

80	P1B11	:	No, the lesson's already finished. They have a break. Meanwhile, Friendly Faridah and her friends wash her hand (.) wash their hand, the cat get out from the bag. What do you think?	<u>Turns 80-84, Acting expert = P1B11</u> <i>Idea-based</i> <i>Unrequested,</i> <i>CRE,</i> <i>proposing</i> <i>appropriate</i> <i>alternative,</i> <i>accepted with</i> <i>suggestion</i>
81	P1B3	:	Mm. And they hide themselves and play with the kitten. Play with Jagung.	
82	P1B11	:	What I mean is, meanwhile Friendly Faridah and <u>her</u> friends wash their hands the kitten, that means Jagung, get out from Friendly Faridah's bag. And then	
83	P1B3	:	the kitten ran away?	<u>Turns 84-85, Acting expert = P1B3</u> <i>Verb LRE,</i> <i>Unrequested,</i> <i>inappropriate</i> <i>correcting,</i> <i>abandoned</i>
84	P1B11	:	Yes. No, no, no. After the break Friendly Faridah cannot found in her bag	
85	P1B3	:	Friendly Faridah cannot <u>find</u> Jagung in her bag and she thought the kitten ran away. And Jagung really, really ran away. How about it?	
86	P1B11	:	I think the kitten not run away.	<u>Turns 84-99, Acting experts = both</u> <i>Idea-based</i> <i>Mutual</i> <i>CRE,</i> <i>contribution,</i> <i>appropriate</i> <i>working</i> <i>together,</i> <i>accepted with</i> <i>suggestion</i>
87	P1B3	:	I think the kitten ran away.	
88	P1B11	:	I think the kitten go to the library.	
89	P1B3	:	Oh?	
90	P1B11	:	And disturb the librarian. Who have reading.	
91	P1B3	:	Then everybody will took the (.) took Jagung away.	
92	P1B11	:	I think Jagung (.) Jagung just disturb them and ran away.	<u>Turns 96-98, Acting expert = P1B3</u> <i>Lexical LRE,</i> <i>Unrequested,</i> <i>appropriate</i> <i>telling,</i> <i>accepted,</i> <i>repeated</i>
93	P1B3	:	Ran away from school? How about it?	
94	P1B11	:	Ran away from the library.	
95	P1B3	:	And ran away from school.	
96	P1B11	:	Then go to the teachers' room.	
97	P1B3	:	Staffroom. ((laughs))	
98	P1B11	:	Yes, staffroom. And then disturb all the teacher.	<u>Turns 102-104, Acting expert = P1B3</u> <i>Idea-based</i> <i>Unrequested,</i> <i>CRE,</i> <i>prompting,</i> <i>appropriate</i> <i>accepted with</i> <i>suggestion</i>
99	P1B3	:	And ran away again.	
100	P1B11	:	Then someone told Friendly Faridah that Jagung disturb many classes. And the staffroom.	
101	P1B3	:	And one of the teachers found a box and put [Jagung	
102	P1B11	:	[Yes. Then Friendly Faridah was very, very (.) feel sorry	
103	P1B3	:	because	
104	P1B11	:	she brought Jagung to school. The teacher gave Jagung to Friendly Faridah.	<u>Turns 105-111, Acting expert = P1B11</u>
105	P1B3	:	And after last period Friendly Faridah took the kitten home (.) eh, brought the kitten home. What do you think?	

106	P1B11	:	The kitten ran away.	<i>Idea-based CRE, appropriate</i>	<i>Requested, telling, accepted, short</i>
107	P1B3	:	Oh, that's very sad.		
108	P1B11	:	A:h I have an idea. Friendly Faridah took the kitten, to stay with kitten.		
109	P1B3	:	Mm, nice.		
110	P1B11	:	When she fell asleep at the night they sleep together.		
111	P1B3	:	Ni:ce. You have really good ideas.	<u>Turns 112-126, Acting expert = P1B3</u> <i>Idea-based CRE, appropriate</i>	<i>Unrequested, proposing alternative, accepted with suggestion</i>
112	P1B11	:	When very, very night (3) Jagung saw her mother.		
113	P1B3	:	Mm, nice. Eh, how about (2) after the night, eh (2) how about, in the morning she took Jagung to walk on the street. Then Jagung saw her mother and ran to her mother.		
114	P1B11	:	How about Friendly Faridah? What she can do?		
115	P1B3	:	How about, she let Jagung go (.) go	<u>Turns 115-117, Acting expert = P1B11</u> <i>Verb LRE, inappropriate</i>	<i>Unrequested, correcting, accepted, repeated</i>
116	P1B11	:	went		
117	P1B3	:	went to her mother.		
118	P1B11	:	Yes. That's very, very sad story. What's erm, <i>jumpa</i> <meet> in English?	<u>Turns 118-125, Acting expert = P1B3</u> <i>Lexical LRE</i>	<i>Requested, telling, accepted with justification</i> <i>Use of L1</i>
119	P1B3	:	<i>Jumpa</i> <meet>, found?		
120	P1B11	:	I mean, Friendly Faridah want to <i>jumpa</i> <meet> Jagung again next time.		
121	P1B3	:	Want to found Jagung again next time?		
122	P1B11	:	Found?		
123	P1B3	:	Ah, want to <u>see</u> .		
124	P1B11	:	Yes, <u>see</u> , <u>see</u> .		
125	P1B3	:	Want to see Jagung next time.		
126	P1B11	:	Yes.		
127	P1B3	:	Is that the end of the story?		
128	P1B11	:	Yes. ((P switches off the voice recorder.))		

Appendix 23: One-way ANOVA to check variability in pretest scores between groups

Table 83

Results of ANOVA on pretest scores between the IndvBA and Control Groups

Measures of writing performance		Sum of Squares	df	Mean squares	F-value	p-value
QI	Between Groups	.19	1	.19	.06	.80
	Within Groups	377.24	124	3.04		
	Total	377.43	125			
SSS	Between Groups	5.19	1	5.19	2.04	.16
	Within Groups	316.24	124	2.55		
	Total	321.43	125			
VS	Between Groups	4.69	1	4.69	1.69	.20
	Within Groups	343.19	124	2.77		
	Total	347.87	125			
GMR	Between Groups	.11	1	.11	.03	.86
	Within Groups	409.19	124	3.30		
	Total	409.30	125			
ExpGMR	Between Groups	34.56	1	34.56	7.16	.01**
	Within Groups	598.37	124	4.83		
	Total	632.93	125			

QI = Quality of ideas; SSS = Story shape and structure; VS = Vocabulary and spelling; GMR = Implicit grammar; ExpGMR = Explicit grammar

**Significance level, $p < .01$

Table 84

Results of ANOVA on pretest scores between the DyadicBA and IndvBA Groups

Measures of writing performance		Sum of Squares	df	Mean squares	F-value	p-value
QI	Between Groups	41.96	1	41.96	14.30	.00***
	Within Groups	369.79	126	2.94		
	Total	411.74	127			
SSS	Between Groups	17.38	1	17.38	6.56	.01*
	Within Groups	333.80	126	2.65		
	Total	351.18	127			
VS	Between Groups	32.87	1	32.87	12.37	.00**
	Within Groups	334.87	126	2.66		
	Total	367.74	127			
GMR	Between Groups	28.28	1	28.28	8.74	.00**
	Within Groups	407.69	126	3.24		
	Total	435.97	127			
ExpGMR	Between Groups	272.47	1	272.47	47.81	.00***
	Within Groups	718.02	126	5.70		
	Total	990.49	127			

QI = Quality of ideas; SSS = Story shape and structure; VS = Vocabulary and spelling; GMR = Implicit grammar; ExpGMR = Explicit grammar

* Significance level, $p < .05$; **Significance level, $p < .01$; *** Significance level, $p < .001$

Table 85

Results of ANOVA on pretest scores between the DyadicEA and DyadicBA Groups

Measures of writing performance		Sum of Squares	df	Mean squares	F-value	p-value
QI	Between Groups	8.48	1	8.48	3.01	.09
	Within Groups	363.31	129	2.82		
	Total	371.79	130			
SSS	Between Groups	7.53	1	7.53	2.43	.12
	Within Groups	399.18	129	3.09		
	Total	406.70	130			
VS	Between Groups	18.32	1	18.32	7.40	.01**
	Within Groups	319.35	129	2.48		
	Total	337.66	130			
GMR	Between Groups	14.43	1	14.43	4.17	.04*
	Within Groups	446.52	129	3.46		
	Total	460.95	130			
ExpGMR	Between Groups	134.29	1	134.29	18.14	.00***
	Within Groups	955.10	129	7.40		
	Total	1089.39	130			

QI = Quality of ideas; SSS = Story shape and structure; VS = Vocabulary and spelling; GMR = Implicit grammar; ExpGMR = Explicit grammar

* Significance level, $p < .05$; **Significance level, $p < .01$; *** Significance level, $p < .001$

Appendix 24: One-way ANOVA to check variability in writing scores between learners in dyads

Table 86

Composite writing scores at pretest for audio-recorded dyads in the DyadicEA and DyadicBA Groups

Measures of writing performance	Learner A (N = 30)		Learner B (N = 30)		F	p-value
	Mean	SD	Mean	SD		
QI	4.57	1.38	5.07	1.62	1.66	.20
SSS	3.87	1.70	4.27	1.51	.93	.34
VS	4.00	1.82	3.77	1.61	.28	.60
GMR	3.50	2.15	3.60	1.69	.04	.84

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

QI = Quality of ideas; SSS = Story shape and structure; VS = Vocabulary and spelling; GMR = Implicit grammar

Table 87

Composite writing scores at immediate posttest for audio-recorded dyads in the DyadicEA and DyadicBA Groups

Measures of writing performance	Learner A (N = 30)		Learner B (N = 30)		F	p-value
	Mean	SD	Mean	SD		
QI	6.27	1.74	6.40	1.69	.09	.77
SSS	5.43	1.78	5.33	1.54	.05	.82
VS	4.77	1.61	4.93	1.36	.19	.67
GMR	4.57	2.27	4.47	2.05	.03	.86

SD = Standard deviation

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group

QI = Quality of ideas; SSS = Story shape and structure; VS = Vocabulary and spelling; GMR = Implicit grammar

Appendix 25: Examining the effect of *Grammar cloze pretest* (Explicit grammar) on learners' prior attainment on L2 narrative writing

Prior to the application of a partial correlation analysis, a separate analysis was performed to identify any explanatory variable that might have a considerable impact on the prior attainment of learners at the outset of the study. In order to estimate how much of the variance in pretest scores (i.e. learners' prior attainment) was explained independently by other variables, a hierarchical multiple regression analysis was performed with *Group* (treatment condition) entered in the first block as a control variable. *Group* was selected because it, being a treatment condition, was likely to have an effect on learners' written performance. By controlling for *Group*, it became possible to examine the relative effect of other explanatory variables on learners' prior attainment. Thus, other explanatory variables were added (or discarded) in turn in the second block to determine if there was a significant difference between groups at pretest that was explained by a particular variable. Narrative writing pretest scores were entered in the regression model as the outcome variable. Results with $p < .05$ were considered significant.

As seen in Table 88, the statistical analyses revealed that *Grammar cloze pretest* (Explicit grammar) significantly explained the differences in learners' L2 writing performance at pretest in all groups. After adjustment for *Group*, *Grammar cloze pretest* accounted for 22-29% of the variance in pretest for the IndvBA and Control Groups. For the DyadicBA and IndvBA Groups, it accounted for 14-20% of the variance. For the DyadicEA and DyadicBA Groups, it accounted for 10-20% of the variance. The p -values for all the final regression models were highly significant ($p < .005$). This indicates that learners' performance of explicit grammar contributed significantly to their L2 writing performance at pretest. The results of this analysis thus provided the justification for examining learner performance in *Grammar cloze pretest* over time.

Table 88

Results of regression analyses between Grammar cloze pretest and L2 writing performance

Groups	Outcome variable*	R	R ²	p-value
IndvBA and CG	Quality of ideas	.47	.22	.000
	Story shape and structure	.50	.25	.000
	Vocabulary and spelling	.54	.29	.000
	Implicit grammar	.47	.22	.000
DyadicBA and IndvBA	Quality of ideas	.37	.14	.000
	Story shape and structure	.37	.14	.000
	Vocabulary and spelling	.45	.20	.000
	Implicit grammar	.44	.19	.000
DyadicEA and DyadicBA	Quality of ideas	.29	.10	.003
	Story shape and structure	.38	.15	.000
	Vocabulary and spelling	.43	.18	.000
	Implicit grammar	.45	.20	.000

DyadicEA = Dyadic Enhanced Linguistic Assistance Group; DyadicBA = Dyadic Basic Linguistic Assistance Group; IndvBA = Individual Basic Linguistic Assistance Group; CG = Control Group

*Note: The explanatory variable for all regression models was *Grammar cloze pretest* (and *Group* as a control variable).

Appendix 26a: An example of a joint composition completed by a high English proficiency dyad from the DyadicEA Group

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.



One clear morning, Friendly Faridah was walking to school. Then, she heard a sound "Meow, meow" and she found a kitten. Friendly Faridah gave some corn to the kitten. The kitten ate the corns in one go. "My, oh, my" said Friendly Faridah. "You look so hungry." She decided to give some 'Jagung' to the kitten. She brought 'Jagung' to school.

Friendly Faridah's friends were happy and played with the kitten. They played with the kitten until 'Jagung' fell asleep. Moody Mini found a box and Friendly Faridah put the 'Jagung' in the box. She put the box in the cupboard. When they began the lesson, the teacher heard some sounds. "Meow, meow". When she pulled the cloth away, the teacher heard the sounds from the cupboard. When she pulled the cloth away, she was surprised to see a kitten. "Oh my goodness!" said the teacher. "What's this kitten?" asked the teacher. "It's me," replied Friendly Faridah. The teacher asked again, "Why did you bring the kitten to school?" "Because my home was very far and I don't know where to put the kitten."

The teacher said, "How about we learn about cats." "Hoay" shouted the students. In the end, Friendly Faridah brought 'Jagung' home.

Appendix 26b: An example of a joint composition completed by a middle English proficiency dyad from the DyadicEA Group

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.

one morning, while friendly faridah was walking to school and brought a kitten. When she reach to the classroom, and then she called her friend. After that, a moody mimi said "What the kitten name" and friendly faridah replied "the kitten name is sotang and timid tassim said "why the kitten name is sotang?" and friendly faridah replied, "because the kitten liked to eat cuttle fish." and timid tassim said "oh!" and lucky lucas said "timid tassim, you said to me that you scared to all animals. And timid tassim replied "I am scared to all animals but I don't scared at kitten. And they played with a kitten until became tired.

Aft Next, Moody Moody mimi have an idea. The idea is she saw a box under teacher table. And friendly faridah put the kitten in the box. The kitten still asleep. After that, teacher walked into the classroom. When the teacher teach to her student, then the teacher hear a loud sound and she followed the sound to the shelf. And friendly faridah raise her hand. But the teacher take the cloth away.

meanwhile

Then, the teacher saw a kitten and asked a question. The question is "who brought the kitten to this classroom?"

The teacher was said ^{to friendly friend} Don't brought this ~~kitten~~ ^{to} school
again, If you brought this kitten again, I will take the
kitten."

finally, Friendly foridoh didn't brought the kitten
again.

Appendix 26c: An example of a joint composition completed by a low English proficiency dyad from the DyadicEA Group

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.



~~When~~ one day Friendly Faridah walking to school,
and then Friendly Faridah ^{was} ~~was~~. She here a sound
and then she said "what is that?" "That is a
beautiful kitten" said friendly faridah. and then
she ~~take~~ take a kitten in she school.
and then his friend look the kitten.
and then timid tassim said "what is the
kitten name?" and then friendly faridah said
"i don't know name of a kitten." the kitten was "
sleep" said friendly faridah. "but where is
the kitten sleep" said friendly faridah. "i no where
the kitten sleep" said timid tassim. ~~and then~~
and then timid tassim put ~~the~~ the kitten
~~under~~ in the box. and then timid tassim
said "where i want to put the box", "i ^{no} ~~no~~
you put the box under the table" said timid tassim.

"Teacher coming" said ~~moddy~~ moddy mimi
and then the teacher come to timid tassim
and his friend class. ~~and~~ and then ~~the~~
Teacher one to titch. Friendly Faridah, can
you answer my ^{caution} ~~caution~~ ~~caution~~. "yes titcher yes
teacher i can answer your ^{caution} ~~caution~~ said
Friendly Faridah. and then ~~the~~ the teacher
here the sound like a cat and he
check under the table "ow no have
a kitten" said a ~~titcher~~ titcher.

"a kitten."

"Now take the kitten in the class," said teacher.

~~the kitten~~
teacher said "don't ~~put~~ bring the ~~cat~~ kitten in this class"
she bring the ~~cat~~ kitten in she ~~was~~ house

Appendix 27a: An example of a joint composition completed by a high English proficiency dyad from the DyadicBA Group

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.



When Friendly Faridah arrived at school, She bought the little kitten to her classroom. So, friendly Faridah name the little kitten Sotong.

Friendly Faridah friend's saw the little kitten. Moody Mimi said, "Uooooow what a cute little kitten. What's his name?" Friendly Faridah said, "His name is Sotong". After a while the little kitten slept. Friendly Faridah took a big box and put the little kitten in the box.

She put the box in the cupboard. Friendly Faridah ~~heard~~ heard the teacher was coming. "Good morning class", said the teacher. Today we learned about English Conjunctions. She taught the children English Conjunctions. When the teacher taught the children, she heard some noise. "Meow, meow" said the kitten.

The teacher was surprised. She said, "What a present surprised, there's a little kitten in the cupboard. Friendly Faridah explained to the teacher. The teacher feed a little kitten.

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.



In the end, Friendly Faridah
take ~~care~~ good care of the little
kitten, so long.

The End

||



Appendix 27b: An example of a joint composition completed by a middle English proficiency dyad from the DyadicBA Group

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.



One morning, when Friendly Faridah was walking, she heard a loud sound. She followed the sound. She saw a nearby dustbin. She saw a white kitten behind the dustbin. She took that the kitten was hungry and she took a dry cuttle fish in her pocket. The kitten ate the cuttle fish so fast. She was surprised that the kitten ate all cuttle fish. When she continued walk to her school, the kitten followed Friendly Faridah. She brought the kitten to the school. Her friend was looking at the kitten. "It was so cute," said Mimi. "What is the name of this kitten?" said Lucas. Friendly Faridah said, "I think I called it ^{name} ~~Lucas~~." When the kitten was sleeping, Friendly Faridah put it in a box and put in the cupboard. When the teacher came, she started to teach them. When she reached them, she heard a loud sound. It came from the cupboard. When she opened the cupboard from the cupboard, she told, "No bring the kitten in school," said the teacher. Friendly Faridah took up the kitten and said, "I brought the kitten at the school," said Friendly Faridah. The teacher said, "Why you bring the kitten at school?" Friendly Faridah said, "Because, I saw it behind the dustbin. The teacher gave a punishment to Friendly Faridah. When Friendly Faridah out from her punishment and take the kitten at her home."

Appendix 27c: An example of a joint composition completed by a low English proficiency dyad from the DyadicBA Group

Friendly Faridah and the lost kitten

Activity Sheet 3



What do you think happened to Friendly Faridah and the kitten in the end?



Work with a friend. Tell your friend what you think happened to Friendly Faridah and the kitten that morning.



Now, write the story together with your friend.



one upon a time in the morning Friendly Faridah go to school and ~~she~~ buy a CuttleFish and the Cuttle Fish is felt in the road and the ~~kitten~~ found the ~~cuttle~~ Fish and he bring to the dustbin and the ~~cuttle~~ ^{kitten} can't open it and he very hungry he sound a ^{kitten} ~~cat~~ meow and the friendly Faridah heard a sound like a ^{kitten} in the dustbin & she open the dustbin its a ^{kitten} and she saw a Cuttle Fish in the dustbin and the ^{kitten} jump in the Cuttle Fish and friendly Faridah took a Cuttle Fish and she open the Cuttle Fish and he ~~to~~ throw a Cuttle Fish in the road and the kitten ^{ate} the Cuttle fish because he ~~so~~ saw very hungry and the friendly Faridah goes to school and the kitten followed the friendly Faridah and the ~~friend~~ friendly Faridah call his name is a Sotong and the ~~cuttle~~ friendly Faridah bring Sotong at the school and he bought the box for his ~~&~~ sleep and the ~~friendly~~ ~~Faridah~~ friend ~~from~~ friendly Faridah ~~cat~~ said a cat from where and the ~~friendly~~ friendly Faridah said from the dustbin and the Sotong slept in the box and the moody mimi said I have a idea said a moody and ~~he~~ ^{she} hide at the alman and the teacher friendly Faridah ~~and~~ and the teacher

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teach the ~~the~~ ~~the~~ children and the teacher ~~and~~
hears the sound and saw a cat the how is this
and the end of a friendly friends