COLLABORATIVE AND INDEPENDENT WRITING:
JAPANESE UNIVERSITY ENGLISH LEARNERS’
PROCESSES, TEXTS AND OPINIONS

by

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Abstract

This study investigated the relationships among Japanese-background university students’ verbal processes while writing in English (their second language, L2), the quality of the texts they produced, and their opinions about their experiences of writing in 2 conditions: one in which learners wrote with a peer (collaborative writing), and one in which the same learners wrote alone (independent writing). Data were gathered from 20 English-major freshman students in an intact introductory academic English writing course in a Japanese university. Using sociocultural theory of mind as a framework, I analysed the learners’ pair dialogues during collaborative writing and speech for self protocols during independent writing, their texts produced, and post-task stimulated recalls and interview protocols.

Three major findings emerged. First, pairs and individuals alike used dialogue (with the peer and with themselves) to facilitate their composing processes and correctly resolved most linguistic problems they encountered. Compared to writing individually, pairs produced more language-related, text-related and scaffolding episodes while they interacted, and used a variety of verbal scaffolding strategies. Second, independent writing promoted more fluent written texts but not any greater communicative quality or accuracy in the compositions compared to the paired writing. Finally, most students agreed that
collaborative writing offered more opportunities for learning English than independent writing did, and all students expressed their desire to write in pairs again. About 40% of the students observed that *speech for self* was conducive to mediating their independent writing, but a similar number of students did not think so.

In sum, both collaborative and independent writing played useful but different roles in these students’ L2 writing, suggesting that L2 teachers could incorporate both approaches to composing into their classrooms. Theoretically, the findings are consistent with the claim that ‘languaging’ or dialogue (with the peer and with the self) is a source for L2 learning (Swain, 2006a).
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Chapter 1

Introduction

Peer-peer dialogue has been recognized as a vital source for second language (L2) learning. Theoretically, the importance of peer-peer dialogue as a means of L2 learning has been underpinned by sociocultural theory (SCT) (Vygotsky, 1978, 1986) that views social interaction as a site for knowledge construction. According to SCT, learning is mediated by language through dialogic interaction (Wells, 2000). Pedagogically, interaction among peers is supported by communicative approaches to L2 teaching which emphasise learning to communicate through interaction (Nunan, 1991).

Despite its recognized importance, the use of peer-peer dialogue in L2 classrooms seems limited to oral tasks such as information gap and role-play tasks. Peer-peer interaction for reading and particularly writing practices seems relatively rare (see also Storch, 2011). When pair or group interaction is introduced in writing classes, it is typically for one stage of writing – the beginning stage (brainstorming) or the final stage (peer feedback) (see also Storch, 2005). Consequently, L2 learners tend to understand that the purpose of peer-peer dialogue is to improve oral communication skills alone (Watanabe, 2004). This is particularly true in foreign language (FL) contexts in which peer-peer dialogue is modestly used in classrooms (Sato, 2013; Watanabe, 2004). Although the growing awareness of the importance of peer-peer interaction for language development has urged a handful of English instructors in Japan to consider more effective methods, teacher-centered instruction still persists especially in writing classes.

Similarly in the L2 literature, while peer-peer interaction for oral discourse has attracted substantial research attention, the same issue for writing discourse has not been extensively examined in the L2 literature. While a plethora of research has explored the roles
of peer feedback in L2 writing (e.g., de Guerrero & Villamil, 1994, 2000; Lockhart & Ng, 1995; M. Suzuki, 2008; Tsui & Ng, 2000; Villamil & de Guerrero, 1996, 1998), there are only modest investigations on the entire process of collaborative writing – in which two or more writers work together to produce a text – in the L2 classroom.

Through the lens of SCT, learning occurs during dialogic interaction. Given this, writing with peers through verbal interaction may impact on language development. Indeed, researchers in first language (L1) contexts have reported the positive effects of collaborative writing such as fostering reflective thinking (Higgins, Flower, & Petraglia, 1992), promoting scientific reasoning skills (Keys, 1994, 1995) and planning in writing (Dale, 1997). One reason that collaborative writing is under-used in L2 classrooms may be due to a lack of educators’ understanding of its potential role in learning (Storch, 2013).

In the past decade, however, Swain’s work on the significance of collaborative dialogue (2000) and languaging (2006a, 2010) for L2 development has inspired research on the benefits of collaborative writing as L2 classroom practices, and increasing interest in collaborative writing has prompted some recent research in L2 contexts. Languaging, according to Swain (2006a), is a “process of making meaning and shaping knowledge and experience through language” (p. 98). Languaging may take the form of collaborative dialogue (i.e., talking with others) or private speech (i.e., talking with the self). Talking with or writing to others, and talking with or writing to self, are connected in theory and in practice (Swain & Watanabe, 2013).

Despite the growing body of studies on collaborative writing, there is a significant lack of research investigating the roles within the entire process of collaborative writing in L2 learning with a holistic evaluation of students’ joint texts. Existing studies in L2 settings have used grammar-focused writing tasks such as dictogloss (e.g., de la Colina & Garcia Mayo, 2007; Kim, 2008; Kim & McDonough, 2008, 2011; Kuiken & Vedder, 2002a, 2002b; Leeser,
2004; Malmqvist, 2005; Swain, 1998) and text editing (Nassaji & Tian, 2010; Storch, 2001b, 2007). These tasks hinder the researchers’ opportunities to observe how learners generate their own ideas, plan, and organize their compositions. Only a small body of research has explored the entire process of collaborative writing to date (Nixon, 2007; Shehadeh, 2011; Storch, 2005; Storch & Wigglesworth, 2007; Watanabe & Swain, 2007; Wigglesworth & Storch, 2009). Even within this small body of research, the analysis of students’ joint texts tends to focus on its accuracy alone (e.g., Watanabe & Swain, 2007), failing to consider other measures of writing such as fluency and complexity or rhetorical organization and presentation of ideas or content.

Situated in this line of collaborative writing research, the purpose of the present study is to investigate empirically the relationship among: (a) Japanese university English learners’ verbal processes while writing; (b) the quality of the texts they produce; and (c) their opinions about writing in two different contexts: one in which a learner writes with a peer partner (collaborative writing) and one in which the same learners write independently (independent writing). Three research questions guided the thesis study in the context of an English course at a university in Japan:

1. What verbalization processes occur when university English learners write in pairs and independently?
   a) What are the frequencies, foci, and outcomes of language-related episodes (LREs) when learners write in pairs and independently?
   b) What are the frequencies and foci of text-related episodes (TREs) when university English learners write in pairs and independently?
   c) What are the frequencies and foci of scaffolding episodes (SEs) when university English learners write in pairs and independently?
2. What are the effects of writing in pairs and independently on the quality of the texts produced?

3. What are university English learners’ opinions about writing in pairs and independently?

To investigate these questions, I conducted a within-subjects task analysis in which the same learners, all participating in the same class and course, wrote comparable compositions twice – in pairs and independently— in a counterbalanced sequence. Apart from a couple of other prior studies that compared independent versus collaborative writing directly for the same L2 students (Nixon, 2007; Storch 1999), most previous studies have compared different groups of learners under different writing conditions (Shehadeh, 2011; Storch, 2005, Storch & Wigglesworth, 2007; Wigglesworth & Storch, 2009). The information arising from the latter research design is unable to describe precisely how the same learner engages in collaborative and independent writing, how these task conditions affect the quality of the texts the person writes, and how the learner feels about the different writing experiences.

The current study also answers the call for more writing research in contexts where the language being acquired is not used in the broader society or institution, so-called foreign-language (FL) settings, such as English in Japan. Scholars such as Manchón (2009a, 2009b) and Ortega (2009) have claimed there is an “ESL bias” (Ortega, 2009) in second language acquisition (SLA) research, because most research has been conducted in English-dominant societies, and so there exists a need for investigations across diverse sociolinguistic contexts (Manchón, 2009b). Shehadeh (2011), for example, pointed out that most research on collaborative writing to date has been conducted in English-dominant contexts rather FL courses (but see Nixon, 2007 and Shehadeh, 2011 with EFL learners). In Japan, particularly, there has been limited research into differing aspects of L2 writing in English teaching such as collaborative writing. For these reasons, my research draws on and aims to contribute to a
growing body of evidence regarding the use of collaborative writing, adopting an SCT perspective to provide pedagogically as well as theoretically justified implications for FL educators.

Understanding the roles of collaborative and independent writing in L2 learning is important. Pedagogically, teachers need to know when and how to implement a collaborative writing task, and when it is more appropriate or effective to use independent writing. Theoretically, it is essential to understand how verbal scaffolding – both peer- and self-scaffolding – may advance language learning and/or writing in the L2 (Manchón, 2011).

This thesis is organized into eight chapters. In Chapter 2, I describe the theoretical orientation of this study – sociocultural theory. Chapter 3 reviews relevant previous literature on collaborative writing. In Chapter 4, I outline the design and methodology for this study describing the: (a) research site, (b) participants, (c) data sources, (d) data collection procedures, (e) pilot study; and (f) methods of analysis. Chapters 5 to 7 report the findings for the three research questions. Chapter 8 concludes the thesis. In that chapter, I first summarize trends from the findings for each research question and then discuss them in light of relevant prior research. I then present the theoretical and pedagogical implications of the findings, limitations of the study, and suggestions for future research.
Chapter 2

Theoretical orientation: Sociocultural theory

2.1. Peer-peer interaction from different theoretical perspectives on SLA

The role of peer–peer interaction has been researched in the published SLA literature for nearly three decades. Early research in this area predominantly took a cognitive-interactionist approach to SLA, viewing SLA as “an internalized, cognitive process” (Zuengler & Miller, 2006, p.36) arising from verbal interaction (Ortega, 2007). The studies using this approach stressed the importance of input in the L2 and how to make it comprehensible, considering interaction as a source for learners’ modified input and output (Mackey & Gass, 2006 and Pica, 1994 produced authoritative reviews). Studies showed that compared to NS (native speaker)-NNS (non-native speaker) interaction, NNS-NNS interaction (e.g., among student peers in a language classroom) promotes a greater number of negotiation for meaning moves such as repetitions, confirmation checks, comprehension checks or clarification requests, which serve to make L2 input comprehensible (Long, 1983, 1996) and provide more opportunities for target language use than in teacher-fronted classrooms, in which teachers’ talk usually dominates the discourse (e.g., Long & Porter, 1985; Pica & Doughty, 1985; Porter, 1986).

This line of research has offered insights into the cognitive processes of individual learners, but it has been criticized for its limited focus on quantitative accounts of linguistic interaction, where interaction is seen merely as a source of input or output (e.g., Block, 2003; Firth & Wagner, 1997). These criticisms further claim that, from this approach, learners are viewed as input-processors who are “stable, internally homogeneous, fixed entities” (Hall, 2002, p. 31) rather than agents of their own learning (Lantolf & Pavlenko, 2001).
Correspondingly, the input-output approach seems to assume that all peer groups interact in a similar manner, and the nature of their interactions does not variably affect their learning. In the past decade, however, there has been a notable increase in the studies on interaction that take sociocultural perspectives, in particular, those informed by SCT that “prioritizes sociocultural and contextual factors in addition to acknowledging individual agency and multifaceted identities” (Swain & Deters, 2007, p. 820). The researchers taking this approach are interested in understanding the processes of language development that occur during interaction. Unlike the cognitive-interactionist approach, Vygotskian SCT (Lantolf, 2000a, 2006) views language learning as a socially situated activity in which learners engage in co-constructing their knowledge.

### 2.2. Sociocultural theory of mind (SCT)

SCT is based upon the work of Soviet psychologist Vygotsky and his colleagues. The most basic concept of SCT is that the human mind is mediated (Lantolf, 2000a, 2000b). Vygotsky argued that all human behaviour is organized and regulated by culturally constructed artifacts. According to Vygotsky’s (1978) *general genetic law of cultural development*, all higher cognitive functions such as problem solving, voluntary attention, and logical memory first appear on the social plane (i.e., between individuals), and subsequently become internalized in the intrapsychological plane (i.e., within the individual). This internalization process of connecting the social and individual planes is mediated by semiotic tools, of which language is one of the most significant. In SCT, three forms of mediation can be distinguished – mediation by others (in social interaction), mediation by the self (through private speech) and mediation by cultural artifacts (Kozulin, 1995; Lantolf, 2000b). In all three meditational means, language plays a primary role and thus is regarded as a powerful mediational tool.
Since learning is socially and culturally mediated, development cannot be understood when separated from its social and cultural context (Vygotsky, 1962). Vygotsky's argument that learning is locally situated is also reflected in the notion of ‘distributed cognition.’ Distributed cognition claims that human knowledge and cognition may be distributed across the individual, artifacts and the persons with whom they are interacting, rather than confined to the individual (Salomon, 1993). In a case of learners writing together, they are creating a text with the assistance of each other and mediational tools, instead of thinking and writing individually separated from the socio-cultural context.

2.3. Zone of proximal development (ZPD)

However, Vygotsky (1978) claimed that not all interaction leads to development. For development to occur, interactions need to operate within a ZPD, which Vygotsky (1978) described 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” (p.86). Although the term zone appears to denote a place, it is not a place or context. A number of researchers have attempted to conceptualize the notion. It is a dialectic (balanced tension) unity of “learning-leading-development” (Dunn & Lantolf, 1998, p. 420). Or it is an activity (Swain et al., 2011). It is “a transformational knowledge-creating activity” (Newman & Holzman, 1993, p.63) where the mediator and learner/novice are both equally involved in the construction of the zone. Thus the ZPD is conceptualized not as an attribute of the learner. Rather, it emerges from the learner through participating in collaborative dialogic activities (Kozulin, 1998).

The ZPD is negotiated between the mediator and the learner/novice as they engage in dialogic interaction. In this process, the assistance in the learners’ ZPDs needs to be
“graduated” (the level of help gradually moves from more implicit to more explicit), “contingent” (offered when needed), and “dialogic” (Aljaafreh & Lantolf, 1994, p. 468). Therefore, if the expert provides too much assistance or a task is too easy, the construction of the novice’s ZPD is unlikely to occur (Ohta, 2000; Schinke-Llano, 1994). Since the ZPD is negotiated, not only the expert but the novice also needs to contribute to the collaborative activity. As Poehner (2008) put it, “successful collaboration in the ZPD is dependent upon both the quality of mediation and learner reciprocity” (p. 40).

Because Vygotsky’s work focused on children’s cognitive development, it has been conceived that interaction typically involves an expert (adults such as teachers or parents) and the novice (child). However, researchers who have applied this premise to L2 contexts have shown that peers can be concurrently experts and novices, and thus they can provide assistance to each other in order to achieve a higher level of performance (e.g., Antón & DiCamilla, 1998; Donato, 1994; Ohta, 2000, 2001; Swain & Lapkin, 1998; Watanabe, 2008; Watanabe & Swain, 2007). These studies have contributed to extend the notion of the ZPD—from the unidirectional help of the expert to the novice—to an opportunity for potential learning for all learners (Wells, 1998). In this regard, Ohta (2001) developed a definition of the ZPD suitable for the SLA context, which is “the distance between the actual developmental level as determined by individual linguistic production, and the level of potential development as determined through language produced collaboratively with a teacher or peer” (p. 9).

2.4. Scaffolding

Constructive help within the ZPDs is referred to as scaffolding. Wood, Bruner and Ross (1976) first introduced the notion of scaffolding as a metaphor for the process of support that enables “a child or novice to solve a problem, carry out a task or achieve a goal which
would be beyond his unassisted efforts” (p. 90). Although Wood and his colleagues did not reference Vygotsky’s work in their article nor did Vygotsky ever use the term scaffolding (Stone, 1998), it has been recognized that the concept is compatible, if not parallel, to the Vygotskian ZPD. In Wood et al.’s definition, scaffolding consists of the expert’s (e.g., adult, teacher) control of those aspects of the task that are initially beyond the novice's (e.g., child, learner) actual level of ability, thereby allowing the novice to concentrate only on those aspects that are manageable with his or her competence. These forms of scaffolding are gradually appropriated or internalized by the novice until he or she no longer needs expert assistance. Wood et al. proposed six functions of scaffolding based on their research findings examining the interaction between a tutor and a child: (a) recruiting interest in the task; (b) simplifying the task; (c) maintaining the directed goal; (d) marking critical features and differences between the learner’s solution and the correct one; 5) controlling frustration; and 6) demonstrating solutions to a task (1976, p. 98).

While the notion of scaffolding has proven to be a useful concept for understanding processes of cognitive development, several criticisms have been raised against the traditional definition, calling for re-conceptualization through a more dynamic definition that recognizes learners as active agents (Poehner, 2008). For example, Daniels (2001) pointed out that the term scaffold can be construed as a one-direction process, experienced by the expert alone, rather than negotiated interaction among the participants of an activity. Similarly, Granott (2005) argued that the original definition of scaffolding implies high asymmetry in the expert in view of the novice’s knowledge and stresses the expert’s control, which corresponds to low mutuality of responsibility in the interaction. She therefore proposed to move beyond structuring scaffolders versus scaffoldees and defined scaffolding for an ensemble as a unit which involves any number of participants who interact with each other during processes of
learning. Mascolo (2005) concurred and further argued that the concept views development as a fixed and pre-defined process rather than a dynamic, emergent, and open-ended one.

In the field of SLA, L2 researchers have explored the concept of peer scaffolding and confirmed that learning can emerge in the absence of a recognized expert (e.g., Antón & DiCamilla, 1998, 1999; de Guerrero & Villamil, 2000; Donato, 1994; Ohta, 2000, 2001; Storch, 2001, 2002; Swain & Lapkin, 1998; Watanabe & Swain, 2007). Of particular interest, Donato (1994) proposed the concept of collective scaffolding based on evidence found in his study on peer scaffolding in a university French classroom. Donato examined the transcripts for instances of peer scaffolding, defined as a situation where a “knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate, and extend current skills and knowledge to higher levels of competence” (p. 40). It was found that learners, regardless of their linguistic abilities, were “at the same time individually novices and collectively experts” (p. 46), and thus they were able to provide scaffolding or mutual support to each other in order to solve the linguistic problems that they encountered.

Likewise, Ohta (2001) claimed that “no learner is universally more or less capable than a peer, but that each learner presents an array of strengths and weaknesses that may be complementary” (p. 76). She collected a corpus of peer-peer interaction data in a Japanese as a Foreign Language classroom in a university over one academic year. As a part of this large study, she examined how students working within their ZPD were able to provide peer assistance to each other. The findings suggested that even peers with a lower proficiency in Japanese could provide assistance to peers with a higher proficiency. When learners engage in collaborative dialogue, they may pool these strengths and weaknesses, which co-construct a greater knowledge as a group than is possessed by any of the individuals involved. Nevertheless, some researchers questioned whether the metaphor of scaffolding is appropriately applied to L2 learners’ assisted performance. For example, Wells (1998) argued
that what some researchers (e.g., Antón & DiCamilla, 1998) referred to as the episode of mutual scaffolding between peers should be better described as “collaborative problem-solving” (Wells, 1998, p. 346). Weissberg (2006) concurred and maintained that although peer scaffolding does occur during peer-peer learning, it is important not to confuse the term with collaborative learning.

The original definition of expert-novice scaffolding has been extended not only to peer-scaffolding but also self-scaffolding (e.g., Granott, 2005; Holton & Clarke, 2006; Mascolo, 2005). According to Granott (2005), self-scaffolding occurs “through the dialogic self, where other people are represented in the multi-voiced self” (p. 148). Holton and Clarke (2006) observed that self-scaffolding can be in the form of “internalized conversation” where the individual questions “their epistemic self” (p. 128). Bickhard (2005) claimed that self-scaffolding is perfectly possible and illustrated some forms of self-scaffolding (p. 170):

“choosing simple cases to work on first, by moving to idealizations, by breaking down into subproblems, by making use of resources that are currently available but may not always be available, and so on.” Bickhard maintained that the development of self-scaffolding skills or approaches for “learning to learn” is essential for students and should therefore be a primary goal of education.

In the L2 context, Knouzi, Swain, Lapkin and Brooks (2010) investigated the evidence of self-scaffolding in the contexts of L2 learning. The authors reported that while some students efficiently used self-explanation as a powerful self-regulatory tool to scaffold themselves, others struggled. Knouzi and her colleagues suggested raising students’ awareness that verbal self-scaffolding is a useful self-regulatory tool and that educators modeling it for them may enhance learning and development.
Vygotsky (1987) argued that language – speaking and writing – completes and transforms thought. Applying this notion of the critical role that language plays as a mediating tool, Swain proposed the concept of collaborative dialogue (2000) and languaging (2006a, 2010). Collaborative dialogue is defined as “the dialogue in which speakers are engaged in problem solving and knowledge building” (Swain, 2000, p. 102). In the case of L2 learners’ interactions, collaborative dialogue is the dialogue in which “learners work together to solve linguistic problems and/or co-construct language or knowledge about language” (Swain, Brooks, & Tocalli-Beller, 2002, p. 172). In seeking a term that covers the use of language to mediate the thinking process – whether in the form of collaborative dialogue or private speech, or in the form of speaking or writing –Swain (2006a) proposed the concept of “languaging.” She defined languaging as a “process of making meaning and shaping knowledge and experience through language” (p. 98) which forms part of the process of learning (Swain & Watanabe, 2013).

Languaging may take the form of collaborative dialogue (i.e., talking with others) or private speech (i.e., talking with oneself). When learners explain a complex task to each other (collaborative dialogue) or talk aloud to themselves (private speech), thoughts are transformed by languaging into artifacts which are then available for reflection (Suzuki & Swain, 2008). The concept of languaging was extended from the output hypothesis (Swain, 1985, 1995, 2005), which was based within an information-processing framework of learning (Swain & Lapkin, 2002). Consideration of Vygotsky’s (1978, 1986) SCT prompted Swain to move beyond conceiving of output (i.e. speaking and writing) as a mere message to be conveyed to the concept of languaging – a tool for cognitive and social activity that mediates L2 learning (Swain, 2000, 2006a). Swain (2006a) claimed that since languaging mediates L2
learning, the examination of learners’ talk allows access to the process of L2 learning in progress.

Swain and her colleagues have demonstrated how interaction among peers provides L2 learners with opportunities to engage in collaborative dialogue as they seek out and provide assistance with language-related problems, and in this way, collaborative dialogue mediates L2 learning (e.g., Brooks & Swain, 2009; Kowal & Swain, 1994, 1997; Swain & Lapkin, 1998, 2000, 2001, 2002; Tocalli-Beller & Swain, 2005, 2007; Watanabe, 2008; Watanabe & Swain, 2007). These studies used language-related episodes (LREs) – instances of collaborative dialogue – as a unit of analysis to examine the peer-peer dialogue as learners jointly engage in problem-solving tasks. An LRE is defined 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” (Swain & Lapkin, 1998, p. 326), or “reflect on their language use” (Swain & Lapkin, 2002, p. 292). LREs have been recognized as a useful construct for understanding the process and product of L2 learning and have been used in peer-interaction research to identify the degree to which L2 learners address language-related problems, allowing for the systematic analysis of these episodes.

The effect of languaging to oneself, or what Chi and her colleagues called “self-explanation” from a cognitive psychology perspective (e.g., Chi, 2000; Chi, Bassok, Lewis, Reimann, & Glaser, 1989), has been explored in the context of research on SLA (e.g., Brooks, Swain, Lapkin, & Knouzi, 2010; Knouzi et al., 2010; Negueruela, 2008; Swain, Kinnear, & Steinman, 2011; W. Suzuki, 2012). Overall, these studies have demonstrated a positive link between languaging as a self-scaffolding tool and enhanced post-task performance.
2.6. Private speech and thinking-aloud

Private speech has been given different labels in the literature. According to Swain, Kinnear and Steinman (2011), the labels include: ‘self-talk’ (Vocate, 1994); ‘self-directed speech’ (Vygotsky & Luria, 1994); ‘speech for the self’ (Lantolf, 2000b; Lee, 2008); ‘intrapersonal communication’ (Lantolf & Thorne, 2006) and ‘speech addressed to the self’ (Lantolf & Thorne, 2006; Swain et al., 2011). Whatever the label, in SCT, private speech is conceived as a cognitive tool that helps people to organize and structure their thinking processes (Swain et al., 2011).

Vygotsky (1986) argued that the earliest speech of a child is essentially social. The child then begins to differentiate speech directed to others and speech directed to oneself. In other words, private speech originates in social speech. Vygotsky discovered that children invoked private speech when confronted with cognitively challenging problems in order to gain control over these problems, and he hypothesized that children use private speech to organize their own behaviours. As a child ages, this self-directed speech decreases and is transformed into inner speech. Although self-directed speech goes underground, so to speak, as inner speech, it may emerge as private speech, when an individual faces demanding tasks and tries to overcome a challenging task. Because it assists the individual when solving a problem, Vygotsky viewed private speech to be a convergence of language and thought which acts as “an instrument of thought” (p. 31).

Vygotsky’s notion of the role of private speech as a self-regulatory tool in child development was later expanded to encompass L2 learning. (e.g., Centeno-Cortés, 2003; DiCamilla & Antón, 2004; Frawley & Lantolf, 1985; Lantolf & Frawley, 1984; McCafferty 1992, 1994; Ohta 2001). The studies on private speech in SLA have investigated self-regulatory functions of private speech not only as a cognitive tool but also as an affective and social tool (McCafferty, 1994). Most importantly, private speech acts as a semiotic tool for
the internalization of the L2. Ohta (2001) identified three main devices of private speech (vicarious response, repetition, and manipulation) that L2 learners use to internalize target items. Centeno-Cortés (2003) showed the link between internalization through the use of private speech and subsequent production as social speech. Moreover, private speech was found to have an affective function when learners externalize feelings indicating enthusiasm, frustration, understanding, and so on (Centeno-Cortés, 2003; McCafferty, 1994; Yoshida, 2008). While it is clear that private speech functions as a meditational tool for language development, whether using private speech is an essential phase for L2 development still remains unclear (de Guerrero, 2005). De Guerrero (2005) surmised that instead of private speech, some learners may use sub-vocal or covert verbalization of the L2. In addition, L2 learners rely heavily on private speech in their L1 to mediate difficult problems. The spontaneous use of the target language for solving problems may not take place until later stages of language development (Centeno-Cortés & Jiménez Jiménez, 2004).

Although most studies on private speech in the L2 context have documented spontaneously produced private speech while learners engaged in problem-solving tasks, some researchers attempted to elicit private speech. For example, Centeno-Cortés and Jiménez Jiménez (2004) coined the label private verbal thinking (PVT) for their study so as to avoid confusion with Ericsson and Simon’s (1984) term, ‘think-aloud.’ The researchers defined PVT as “a particular type of private speech that surfaces during the reasoning process as a tool used in the resolution of problem-solving tasks,” (p. 7) without the learner being instructed to do so. They developed a tactic to implicitly dissuade their participants from using an external aid, which in turn fostered the production of PVT. They emphasised the point that their participants were not instructed to verbalize while engaging in problem-solving, which sets their study apart from research using think-aloud protocols.
Conversely, in their study concerning the effects of verbalization on L2 grammar development, Ganem-Gutierrez and Roehr (2011) considered verbalization while thinking-aloud as elicited private speech because it emerges out of and cycles back into the learner’s cognitive processes (p. 302). To justify their idea they cited Vygotsky’s (1962) statement that “to study an internal process it is necessary to externalize it experimentally, by connecting it with some outer activity; only then is objective functional analysis possible” (p. 132).

One strand of cognitive psychology's perspective on verbalization of thought is known as thinking-aloud (Ericson & Simon, 1984, 1993) and has been widely used in research exploring thinking processes. In think-aloud protocols, participants are explicitly instructed by a researcher to verbalize their thought processes. The goal of these protocols is to elicit and trace the cognitive processes underlying task performance (Ericsson & Simon, 1984, 1993). From an information-processing perspective, Ericsson and Simon (1984, 1993) considered verbalization as a direct reflection of what people are attending to while performing tasks, assuming that thinking-aloud during what they called concurrent verbal reports can reveal thought processes that underlie task performance. From the SCT perspective, however, thought is mediated by cultural artifacts of which language is one of the most significant. In SCT, language changes thought, potentially leading to development and learning (Swain, 2006b). Swain has therefore argued that research tools such as thinking-aloud are not merely a medium of data collection but should be considered as part of the learning process (see also Smagorinsky, 1998, 2001; Suzuki & Swain, 2008).

Compared to the research analysing spontaneously produced private speech, the use of think-aloud protocols as a research tool has been controversial for two main reasons: the issues of veridicality and reactivity. Veridicality concerns whether a think-aloud protocol is the accurate representation of a participants’ complete thinking processes. Reactivity concerns whether participants being required to verbalize their thinking processes alter the sequence
and content of the behavior being observed and its outcome (Ericsson & Simon, 1984, 1993).

In response to these criticisms, Ericsson and Simon (1984, 1993) have provided theoretical and empirical evidence that think-aloud reports do not change the sequence of thoughts or alter the accuracy of task performance even though they might slow down task completion due to the additional time needed for participants to verbalize their thoughts.

In L2 contexts, Gass and Mackey (2000) reviewed the various studies on think-aloud protocols and suggested that think-aloud methods could access cognitive processes under careful research designs that respected the limits of verbal reports. A number of validation studies of verbal protocols have been conducted in L2 contexts to date though the researchers have produced conflicting findings. While some researchers found non-reactivity from concurrent think-aloud reports (e.g., Egi, 2004, 2008; Leow & Morgan-Short, 2004), others found reactivity (Sachs & Polio, 2007; Sachs & Suh, 2007). Suzuki and Swain (2008) provided an extensive review of the validation studies in L2 contexts and pointed out various possible reasons underlying these inconsistent findings. The most significant point they raised was the language of verbalization. That is, the degree to which participants used their L1 and L2 during think-aloud tasks vary depending on the study. Moreover, some studies have not even reported which language the participants used or what kind of instruction researchers provided prior to the think-aloud tasks.

Despite the criticisms and conflicting findings from validation studies in SLA, think-aloud protocols have been widely used in SLA research, and particularly L2 writing research (e.g., Cumming, 1989; Sachs & Polio, 2007; M. Suzuki, 2008). One reason is that thinking-aloud is conceivably the only research tool that provides some direct insight into the cognitive processes that participants attend to while completing language tasks, which are otherwise unobservable (except through less direct tools for process-tracing such as the tracking of eye movements, key-board strokes, or handwriting).
Chapter 3

Prior research on collaborative writing

In this Chapter, I outline prior research on collaborative writing. I begin with a brief overview of collaborative writing research in L1 settings, followed by a review of studies on collaborative writing in L2 contexts. To establish the background for the research described in the main part of this thesis, I first review the research on peer feedback. Following this, I provide an overview of the literature on collaborative writing of the entire process (co-planning, co-authoring, co-reviewing and co-editing) – the focus of the current research study. I then briefly review the research on computer-mediated collaborative writing in L2 contexts. The last section summarizes the literature review.

3.1. Collaborative writing in L1 contexts

Storch (2013) defines collaborative writing as “the co-authoring of a text by two or more writers” (p. 2). Some scholars (e.g., Ede & Lunsford, 1990; Storch, 2013) argue that collaborative writing should be distinguished from other forms of tasks such as peer editing and peer feedback because they limit the writers’ interaction to only one stage of writing and thus, they do not share co-ownership of the joint text (Storch, 2013). However, others (e.g., Bruffee, 1984; Harris, 1994) favour a broader definition.

Collaborative writing has been widely practiced in academic courses and business settings (Ede & Lunsford, 1990) in English L1 milieu. Literature on L1 writing has reported many positive effects of collaborative writing. For example, Bruffee (1993) who is a pioneer of adapting the principles of collaborative learning theory to L1 writing, suggested that collaborative writing fosters reflective thinking (see also Higgins, Flower, & Petraglia, 1992; Yarrow & Topping, 2001) and idea explaining (see also Yarrow & Topping, 2001). Other
writing scholars also reported that joint writing promotes planning in writing (Dale, 1997), critical thinking (Elbow, 1999), and scientific reasoning (Keys, 1994, 1995) as well as encouraging writers to discuss writing strategies (Daiute, 1986). Furthermore, collaborative writing helps learners to develop awareness of the potential audience (Leki, 1993) and to become a more active and responsible writer (Scardamalia, 2002).

However, these positive findings have not gone unchallenged. The studies have reported some challenges of collaborative writing activities in educational settings (e.g., Leki, 2001; Strauss & U, 2007; Weng & Gennari, 2004). For example, students find it difficult to follow a discussion among peers and add their own opinions during joint writing processes (Weng & Gennari, 2004). Some scholars argue that collaborative writing is a complex activity and thus needs to be taught (Dovey, 2006; Gollin, 1999).

3.2. Peer feedback in L2 contexts

Most existing research on collaborative writing in L2 contexts has examined peer feedback, the use of which in L2 writing classrooms has been debated over the past two decades in view of conflicting findings (see Ferris, 2003; Liu & Hansen, 2002 for a review). Previous studies have explored: the effectiveness of peer feedback (e.g., Berg, 1999; Caulk, 1994; Connor & Asenavage, 1994; Mendonca & Johnson, 1994; Nelson & Murphy, 1993; Paulus, 1999; Stanley, 1992; Tsui & Ng, 2000); the nature of peer interaction during the revision process (e.g., de Guerrero & Villamil, 1994, 2000; Lockhart & Ng, 1995; Nelson & Murphy, 1993; M. Suzuki, 2008; Villamil & de Guerrero, 1996, 1998, 2006; Zhu & Mitchell, 2012), and students’ attitudes toward the peer response activities (e.g., Allaei & Connor, 1990; Berg, 1999; Carson & Nelson, 1996; Hirose, 2008; Mangelsdorf, 1992; Nelson & Carson, 1998; Tsui & Ng, 2000; Zhang, 1995).
In addressing the effectiveness of peer response, researchers have investigated the following questions: whether students identify problems in their peers’ texts and offer helpful comments (Caulk, 1994; Mendonca & Johnson, 1994; Nelson & Murphy, 1993; Paulus, 1999); whether students incorporate their peers’ comments into their revisions (Connor & Asenavage, 1994; Mendonca & Johnson, 1994; Nelson & Murphy, 1993; Paulus, 1999; Tsui & Ng, 2000); and the type of revisions (i.e., surface or meaning level) students make based on their peers’ comments (Berg, 1999; Paulus, 1999; Stanley, 1992). Nelson and Murphy (1993) reported that the feedback of low-intermediate ESL students to their peers’ drafts was similar to that of trained raters’ in that both identify macro-level problems with organization, development, and topic sentence. Likewise, Tsui and Ng (2000) compared the feedback of peers to that of teachers in an EFL secondary classroom. The researchers found that although students incorporated teacher’s feedback more to their revisions, peers’ comments had specific roles in fostering ownership of the text, a sense of authentic audience for communicating through writing, and raising awareness of strengths and weaknesses in their texts.

The issue of how students incorporate their peers’ comments into revisions of their writing have produced conflicting findings. This trend may be expected given the great variation in the purposes, contexts, curricula, and populations for L2 education internationally (Leki, Cumming, & Silva, 2008). While some researchers reported that only a small number of peers’ suggestions were included in final drafts (Connor & Asenavage, 1994; Mendonca & Johnson; 1994), others found that the vast majority of modifications (74%) discussed during peer revisions were incorporated into final drafts (Villamil & de Guerrero, 1998). Moreover, although some studies demonstrated that most of the students’ suggestions were at the surface-level (Connor & Asenavage, 1994; Hedgcock & Lefkowitz, 1992), others have
observed that most of the comments made by EFL learners were meaning-based, regardless of their level of English proficiency (Kamimura, 2006).

Those researchers who have investigated the processes of interaction during peer-response activities have claimed that the degree to which L2 learners incorporate their peers’ feedback into their drafts depends on the nature of peer collaboration. Nelson and Murphy (1993) found that learners who interacted collaboratively were more likely to integrate their peers’ comments than those who did not interact at all or interacted in a defensive manner.

Similarly, based on the analysis of transcribed dialogue during adult ESL learners’ peer response activities, Lockhart and Ng (1995) identified four categories of reader stances – probing, collaborative, interpretive, and authoritative. They found that two of these four stances – probing and collaborative stances – engaged learners in a fuller understanding of the writing process than the other two stances did.

In a number of studies drawing on SCT, de Guerrero and Villamil (de Guerrero & Villamil, 1994, 2000; Villamil & de Guerrero, 1996, 1998, 2006) examined collaborative dialogues during 40 peer revision sessions carried out by university learners of English. From their analysis of recorded dialogues, Villamil and de Guerrero (1996) identified five mediating strategies used to promote the revision process: employing symbols and external resources (prompts sheets, dictionaries, neighbouring classmates and teacher); resorting to interlanguage knowledge; vocalizing private speech; providing scaffolded assistance; and using the L1. In terms of private speech, Villamil and de Guerrero found that private speech took a variety of forms such as repetition, fillers, self-reminders, and self-directed questions that served to guide actions and ease the affective load. Their data also demonstrated that students were able to provide scaffolding to each other by employing various strategies such as requesting advice, advising, responding to advice, eliciting, responding to elicitation,
reacting, requesting clarification, clarifying, restating, announcing, justifying, instructing, giving directives and making phatic comments (Villamil & de Guerrero, 1996, p.62).

M. Suzuki (2008) compared the processes of negotiation among 24 Japanese university students during self-revision and peer-revision of EFL compositions that they had written. She found that more episodes of negotiation appeared during peer revisions than during self revisions, but approximately twice as many text changes occurred during self-revisions as occurred during their peer-revisions. Peer-revisions elicited more metatalk than self-revisions did. Self-revision tended to involve brief solitary searches for word choices or self-corrections of grammar based on individual memory searches or repetitions.

Another issue addressed in peer feedback research is L2 learners’ perception of and attitudes toward peer response, which also have shown contradictory findings. While some studies reported that students found peer feedback to be a beneficial activity that enhanced their writing skills (Hirose, 2008; Tsui & Ng, 2000), others concluded that students preferred teacher feedback to peer feedback (Nelson & Carson, 1998; Zhang, 1995) and doubted the effectiveness of peer response. This line of research typically assessed learners’ perceptions of and attitudes toward peer response through a single questionnaire (Tsui & Ng, 2000; Zhang, 1995) rather than using an interview protocol (Mendonca & Johnson, 1994). Interestingly, some studies reported that Chinese and Japanese students tended to assume negative views of peer feedback (Mangelsdorf, 1992; Zhang, 1995) and often failed to participate in peer review sessions (Allaei & Connor, 1990; Carson & Nelson, 1996; Nelson & Carson, 1998) possibly due to their non-Western cultural backgrounds and rhetorical traditions (Allaei & Connor, 1990).
3.3. Collaborative writing in L2 contexts

The research that has addressed the entire process of collaborative writing (co-planning, co-writing and co-reviewing) has mostly examined the following issues: (a) the process and nature of collaborative writing; (b) the effects of collaborative writing on text quality and language development; and (c) learners’ perspectives on collaborative writing.

3.3.1. Processes: Peer-peer dialogue during collaborative writing

After Swain’s (2000) proposal that collaborative dialogue is a source of L2 learning and useful context for understanding the processes and products of language learning, considerable research has documented the nature of peer-peer dialogue. Some researchers examined peer-peer collaborative dialogue during grammar-focused writing tasks such as dictogloss, picture narration, and text-reconstruction tasks (e.g., de la Colina & Garcia Mayo, 2007; Kim, 2008; Kim & McDonough, 2008; Kuiken & Vedder, 2002a, 2002b; Leeser, 2004; Storch, 1999, 2008; Swain & Lapkin, 1998, 2002), whereas others focused on composition tasks (e.g., Storch, 2002; Watanabe & Swain, 2007; Watanabe, 2008) to document the nature of collaborative dialogue during collaborative writing activities.

Earlier studies on collaborative dialogue investigated the link between collaborative dialogue and L2 learning, whereas recent studies have focused on how aspects of contexts affect the nature of collaboration and thus the qualities and quantity of collaborative dialogue. The research to date has explored patterns of interaction (e.g., Storch, 2002, Watanabe, 2008), L2 proficiency differences among pairs (e.g., Leeser, 2004; Kim & McDonough, 2008; Watanabe & Swain, 2007), types of tasks (e.g., de la Colina & Garcia Mayo, 2007; Swain & Lapkin, 2001), and computer-mediated communications (e.g., McDonough & Sunitham, 2009).
Storch (2001a, 2002) conducted a longitudinal study to investigate the nature of dyadic interaction and its potential effect on language learning in adult ESL classrooms as students engaged in three different joint writing tasks (drafting a short composition, editing, and text reconstruction). Using a global qualitative approach to analyse the transcribed pairs’ talk, Storch (2002) distinguished the dyadic interactions in terms of mutuality (i.e., level of engagement with each other’s contributions) and equality (i.e., control over the task). These two dimensions were further analysed as four types of interactional patterns: collaborative, dominant/dominant, dominant/passive, and expert/novice. The study revealed that more instances of knowledge transfer took place in pairs with collaborative or expert/novice patterns than occurred in dominant/dominant and dominant/passive patterns. Furthermore, the data from the latter two patterns displayed a greater number of instances showing either no transfer of knowledge or missed opportunities.

Leeser (2004) focused on the impact of learner proficiency on collaborative dialogue in an adult L2 Spanish class as students engaged in a dictogloss task. He analysed the frequency, types, and outcomes of LREs produced by three different groupings of learners according to Spanish proficiency levels: high-high, high-low and low-low pairs. Leeser found that as the overall proficiency of a pair increased, the learners produced a greater number of LREs, correctly resolved more LREs, and focussed more on language form than on lexical items.

Watanabe (2008) and Watanabe and Swain (2007) built on Storch (2002) and Leeser (2004) to investigate how L2 proficiency differences in pairs and patterns of interaction affect the processes and products of collaborative writing. Four adult ESL learners each produced a joint text, both with more and less proficient peers. Each pair engaged in a three-stage task involving pair writing, pair comparison (between their original text and a reformulated version of it), and individual writing. The researchers used the learners’ joint texts as a pre-
test and their subsequent individually written texts as the post-test to assess language learning resulting from collaborative writing sessions. The researchers found that the pairs with a collaborative orientation produced a greater frequency of LREs and achieved higher post-test scores than the pairs with a non-collaborative orientation, regardless of their partner’s English proficiency level. The researchers thus claimed that proficiency differences did not seem to be the decisive factor in affecting the nature of collaborative dialogue. Rather, the pattern of interaction co-constructed by both learners had a greater impact.

Kim and McDonough (2008), using a research design similar to that of Watanabe and Swain (2007), examined how intermediate level Korean L2 learners engaged in a dictogloss task when paired with intermediate-level peers and then with advanced peers. Their results showed that when interacting with an advanced peer rather than an intermediate peer, learners produced more LREs in total, and a greater proportion of these LREs involved lexical items. Furthermore, when learners worked with fellow intermediate peers, a greater proportion of LREs were left unresolved or were resolved incorrectly than when they worked with advanced peers. In terms of patterns of interaction, the study found that learners who were collaborative with an intermediate partner tended to be passive with an advanced partner, and learners who were dominant with an intermediate partner were more collaborative with an advanced partner. However, the researchers noted that it was unclear whether these patterns of pair interaction affected the number of LREs produced.

Since most studies in this area tended to use a grammar-focused writing task rather than a composition task, little is known about how learners plan and organize their compositions with peers. Storch (2005) conducted a classroom-based study in which adult ESL learners were given a choice to write in pairs or individually. Eighteen students chose to work in pairs, and five chose to write individually. She analysed the recorded pair dialogues for any distinct phase of writing: planning, writing, and revision phases. All talk was
segmented into episodes, and each episode was coded for what the learners seemed to focus on. Seven focus areas were identified: task clarification, generating ideas, language-related episodes, structure, interpreting graphic prompts, and reading/re-reading. Storch reported that although all the pairs spent some time on the planning phase, in most cases that phase was very brief (about 4 to 20 turns, approximately 1 min on average). Storch speculated that this might be due to the fact that the learners were asked to compose a short text to describe a graphic prompt, rather than to compose an extended, argumentative essay. Only three out of nine pairs engaged in a distinct revision phase, despite the explicit task instructions.

Furthermore, like the planning phase, this revision phase was very brief (just under 2 min). In terms of the time the pairs spent on the different activities involved in the task, the most time-consuming activity was generating ideas (an average 53% of the time), followed by LREs (25%). Storch indicated that her findings are in line with the findings of Cumming (1989) who used think-aloud protocols to elicit the aspects of writing that ESL learners paid attention to as they composed. Cumming found that learners pay the most attention to generating ideas followed by attention to language. Storch stated that it was difficult to establish a correlation between the amount of time spent on language deliberations and grammatical accuracy.

3.3.2. Processes: The role of the L1 in collaborative writing

Researchers and teachers, particularly those in FL contexts have long been debating the optimal amount of L1 use during pair and group work. Some teachers are reluctant to implement pair and group work in their classrooms due to the concern that learners may overuse their L1 instead of the target language. However, recent studies within the SCT framework have suggested that the L1 is a useful meditational tool for learning L2 (e.g., Antón & DiCamilla, 1998, 1999; Brooks & Donato, 1994; Leeming, 2011; Storch & Aldosari, 2010; Storch & Wigglesworth, 2003; Swain & Lapkin, 2000; Villamil & de Guerrero, 1996).
These scholars have highlighted the importance of the L1 as a psychological tool that provides a strategic cognitive role in scaffolding, establishing and maintaining *intersubjectivity* and managing a task during cognitively difficult activities. Similarly, studies of L2 writing have demonstrated that the L1 is used frequently to generate ideas, retrieve information from memory, make meaning of the text and improve text quality (e.g., Cumming, 1990; Murphy & Roca de Larios, 2010).

Swain and Lapkin (2000) investigated the effects of task type on L1 use in eighth grade French immersion classes. One group (12 pairs) completed a dictogloss task and others (10 pairs) did a jigsaw task. Swain and Lapkin found that less than 30% of the total turns in collaborative dialogues were in the L1, although there were considerable variations in L1 use amongst pairs. While high-achieving pairs used less L1, there was a greater need to use the L1 among lower-achieving students. Although students used their L1 in one quarter of the turns on average, only approximately 12% of the L1 turns were off-task. The rest of their L1 use served valuable cognitive and social functions. The study found no statistically significant differences in the amount of L1 used across the two tasks.

Storch and Aldosari (2010) investigated the effect of proficiency differences in pairs and task type on the amount of L1 used. Thirty university EFL learners in Saudi Arabia formed three English proficiency pairings: high-high, high-low, and low-low. All pairs completed three tasks (jigsaw, composition, and text-editing) and the audio-recorded pair dialogue was analysed for the quantity of L1 used and the functions the L1 served. Findings demonstrated that text-editing tasks elicited a large quantity of L1 use (17%) while the use of L1 in the joint writing task was 4% of the total words. The functions the L1 served during a joint writing task were: generating ideas (36%); vocabulary derivations (34%) and task management (24%). Overall, the researchers found that task type had a greater impact on the amount of L1 used than did English proficiency differences in pairs. There was a modest use
of L1 in pair work, which was mainly used for the purpose of task management and to facilitate deliberations over vocabulary.

Little research has investigated the use of L1 in pair and group work in Japanese EFL contexts (but see Fotos, 2001 and Leeming, 2011). The findings of these studies generally concurred with other L1 studies in different L2 contexts that the L1 is a useful tool for Japanese EFL learners in high school (Leeming, 2011) and university (Fotos, 2001) settings for assisting peers and creating a collaborative environment.

Leeming (2011) raised an interesting argument that the Japanese concept of awaseru (to fit in with one’s surroundings) may be one of the factors influencing students’ choice of language use. Leeming reported from his post-task interview that many of his participants claimed that the classroom atmosphere and the attitudes of their pair or group members determined the extent to which they used English. In other words, Japanese high school students' use of L1 varied depending on their relations to their peers and the existing classroom attitudes towards English use (see also Tomita & Spada, 2013). In addition, Leeming’s students seemed to have a clear distinction between “task talk,” which involved the language to carry out the task and was predominantly in English, and “talk about language or talk about the task” (p.373) which was almost exclusively in Japanese. Moreover, Leeming pointed out that even cautiously planned classroom-based research might not be able to capture learners’ regular classroom behaviour. He noted that, for example, one dyad claimed that they forgot that they were being recorded and thus the conversations represent regular practice, while other dyads admitted to being influenced by being recorded. Leeming speculated that this could be one of the reasons explaining the substantial differences in L1 use amongst pairs in his study. He therefore questioned the validity of previous studies, which may have had observer effects and may not reflect real classroom situations (see also Foster, 1998), and he underscored the difficulties of recording learners while minimising reactivity.
3.3.3. Written texts: The effects of collaborative writing on text quality

Surprisingly little research has investigated the effects of collaborative writing on text quality. Six studies have compared the texts produced from collaborative versus solitary writing conditions (Fernández Dobao, 2012; Nixon, 2007; Shehadeh, 2011; Storch, 1999, 2005; Storch & Wigglesworth, 2007; Wigglesworth & Storch, 2009).

In his doctoral thesis, Nixon (2007) examined the effects of collaborative writing and independent writing on the essays students produced. Twenty-four Thai EFL undergraduate students produced two writing compositions (on two different writing topics) under two different conditions: collaborative and independent. Three raters analysed the learners’ compositions using Hamp-Lyons’ (1991) 9-point profile scale (consisting of the 5 aspects of communicative competence, organization, argumentation, linguistic accuracy, and linguistic appropriacy) and Hamp-Lyons’ 9-point Global scale. The scores of the collaborative writing texts were further divided into higher-proficiency and lower-proficiency learners in each pair, and he analysed how each learner wrote under solitary conditions. Nixon found no statistically significant differences between the global score and the writing aspect scores of the collaborative writing texts and the average scores of the independent writing texts overall, but for lower-proficiency learners, the collaborative writing texts were significantly better than were their independent writing texts on the global score and on three of the five scores for aspects of writing (organization, communications and linguistic appropriacy). These results suggest that collaborative writing may be more effective for low English proficiency learners than for high English proficiency learners.

Similar to Nixon (2007), Storch (1999) conducted a study in which eleven intermediate to advanced adult ESL learners engaged twice in a series of grammar-focused writing tasks (a cloze exercise, text reconstruction, and composition): the first version was completed individually and the other version was done in pairs (or small groups). Storch found that
collaborative writing and the LREs it generated had a positive effect on overall grammatical accuracy. Of particular interest, with regard to the composition, those texts written in pairs demonstrated a lower average number of errors than did compositions written individually (7.75 vs. 13.6) and a greater proportion of error-free clauses (61% vs. 47%). She indicated that pairs spent more time on task as they attempted to solve the problems, which resulted in more accurate performances.

Storch (2005), discussed earlier, also compared the compositions produced by pairs (9 pairs) with those produced independently (5 individuals). She found that pairs produced shorter but more superior texts in terms of task fulfilment, grammatical accuracy, and complexity, suggesting that pairs seemed to carry out the task more competently than did students writing individually. Storch concluded that collaboration afforded students the opportunity to pool ideas and provide each other with feedback.

In a similar but larger scale study, Storch and Wigglesworth (2007) compared the writing produced by learners working in pairs and individually. Postgraduate students who were advanced level ESL learners engaged in two composition tasks (a report task based on a visual prompt and an argumentative essay) either writing collaboratively (48 participants, 24 pairs) or in a solitary (24 participants) condition. The researchers analysed the participants’ writing in terms of accuracy measured in global units: error free T-units and error free clauses. Like Storch (2005), the researchers found that although no differences appeared in terms of fluency and complexity, pairs tended to produce texts with greater accuracy than individual writers. Storch and Wigglesworth concluded that collaboration afforded the students the opportunity to interact on different aspects of writing. In particular, it encouraged students to collaborate when generating ideas and afforded students the opportunity to give and receive immediate feedback on language. In addition, Wigglesworth and Storch (2009) conducted a
similar study with 24 pairs versus 48 individual learners writing an argumentative essay and obtained similar results as Storch and Wigglesworth (2007).

In a novel design, Fernández Dobao (2012) investigated the effects of the number of participants in a writing task and the accuracy, fluency, and complexity of the texts produced in intermediate-level Spanish as a FL classes. She compared the performance of three writing conditions: groups of four learners (15 groups), pairs (15 pairs), and independent writing (21 individuals) as they engaged in a picture narration jigsaw task. The comparison of LREs between the groups versus pairs revealed that groups produced more LREs and correctly resolved more LREs than did pairs. Consequently, the analysis of the writing produced demonstrated that the texts written by the groups were more accurate than those written individually and in pairs. Like Storch and her colleagues (Storch, 2005; Storch & Wigglesworth, 2007; Wigglesworth & Storch, 2009), no differences were found in terms of syntactic and lexical complexity among the three conditions.

Unlike the abovementioned researchers who collected and analysed data from a single writing session, Shehadeh (2011) conducted a longitudinal investigation into the effectiveness of collaborative writing on L2 writing. Shehadeh attempted to answer the question of whether or not collaborative writing has any effect on students’ quality of writing after a prolonged engagement in such activities. The study was 16 weeks long and involved pre- and post-writing tasks, before and after the 12 weekly activities. The study involved 38 university students in two intact classes in the United Arab Emirates who were at a low-intermediate proficiency level in English. One class ($n = 18$) carried out individual writing tasks and the other class ($n = 20$) wrote in pairs for 16 weeks. Writing quality was determined by a holistic rating procedure that included content, organization, grammar, vocabulary, and mechanics. The analysis revealed that collaborative writing had significant effects on content, organization, and vocabulary but not for grammar or mechanics. Because Storch (2005) and
Storch and Wigglesworth (2007) found that their participants (advanced ESL learners) produced more accurate texts in collaborative writing conditions than solitary conditions. Shehadeh speculated that his participants were unable to assist each other with the needed grammatical accuracy due to their low proficiency in English. Shehadeh also mentioned that the results might also reflect the use of different measures in both studies. While Storch (2005) and Storch and Wigglesworth (2007) calculated the proportion of error-free clauses as measures of grammatical accuracy, Shehadeh used global scales adopted from Hedgcock and Lefkowitz (1992).

### 3.3.4. Opinions: L2 learners’ opinions about collaborative writing

In her 2005 study discussed earlier, Storch elicited learners’ reflections on the experience of collaborative writing using interviews. Most students (16 out of 18) were positive about the experience, although a couple of students expressed some reservations about collaborative writing. These two students felt that pair work is most effective for oral activities such as group discussions, rather than for writing activities. Of particular interest is that these two students were both Japanese female students. They both felt that working in pairs made it harder for them to concentrate, implying that they believed writing is an individual, solitary activity. Also both students felt embarrassed by their perceived poor English skills, suggesting they did not want to lose face. It is intriguing that these Japanese students found the pair writing to be stressful, even though the learners chose to work in pairs rather than alone and that they self-selected their pair partner. The rest of the 16 participants stated that collaborative writing provided them with an opportunity to compare ideas and to learn from each other different ways of expressing their ideas as well as improving their grammatical accuracy and enhancing vocabulary.

Nixon (2007), discussed earlier, administered a questionnaire after each writing session (collaborative and independent), and then conducted a semi-structured interview
based on the response of each participant to the questionnaires. Like Storch (2005), most responses were positive. Nixon noted that most negative comments were related to the time constraint and the fact that participants had to work with an unfamiliar partner (due to a quasi-experimental research design). The only negative comments related to the nature of collaborative writing involved the difficulties they faced when learners disagreed. Although all the participants stated that one of the best things about pair writing was that it helped them to generate ideas, having disagreements over ideas led to negativity towards the collaborative writing experienced.

Shehadeh (2011) administered a questionnaire after 12 weeks of collaborative writing sessions. Like Storch (2005) and Nixon (2007), most students in the collaborative writing condition stated that the experience was enjoyable and they felt that it contributed to their language development. Learners noted that collaborative writing enhanced self-confidence and promoted not only their writing but also speaking abilities. Furthermore, collaborative writing enabled them to generate and pool ideas together, to provide immediate feedback to each other, and to enhance the quality of their texts.

3.4. Computer-mediated collaborative writing in L2 contexts

Since the mid-1990s, with the rapid growth of computer technology, the site for collaborative writing has expanded online (Thorne, 2008). L2 researchers and teachers have begun to explore and employ commuter mediated communication technologies into their L2 writing research and classroom (Warschauer & Grimes, 2007). Particularly, the shift from the first-generation web (Web 1.0) to the second-generation web (Web 2.0)\(^1\) enabled people not only to retrieve and publish information but also create and share it in an interactive way.

\(^1\) While Web 1.0 applications involve emails, chat rooms and discussion boards, Web 2.0 applications include blogs, Google Docs, podcasts, wikis and a range of social networking sites such as Facebook (Storch, 2013; Wang & Vasquez, 2012).
In particular, web applications such as wikis and Google Docs that allow users to create and edit content of jointly produced texts have recently attracted increased research interest.

The modest number of studies on web-based collaborative writing thus far have investigated the following four main areas (see also Storch, 2013 and Wang & Vasquez, 2012 for a review): (a) processes of writing (e.g., Arnold, Ducate, & Kost, 2009; Elola & Oskoz, 2010; Kessler, 2009; Kessler, Bikowski & Boggs, 2012; Kost, 2011; Mak & Coniam, 2008; Oskoz & Elola, 2012); (b) quality of joint texts (e.g., Elola & Oskoz, 2010; Kuteeva, 2011; Mak & Coniam, 2008); (c) L2 learners’ perceptions (e.g., Arnold et al., 2009; Chao & Lo, 2011; Ducate, Lomicka, & Moreno, 2011; Elola & Oskoz, 2010; Kost, 2011; Lee, 2010; Lund, 2008; Miyazoe & Anderson, 2011; Oskoz & Elola, 2012; Zorko, 2009); and (d) patterns of interaction (Arnold et al., 2012; Bradley, Linstrom, & Rystedt, 2010; Li & Zhu, 2011), and contributions (e.g., Ducate et al., 2011; Mak & Coniam, 2008; Oskoz & Elola, 2012).

First, to investigate the effects of web-based collaborative writing on L2 learning, researchers have examined L2 learners’ language use during their composing processes. While some studies (Elola & Oskoz, 2010; Kessler, 2009; Mak & Coniam, 2008) reported that L2 learners corrected language errors made by peers and themselves in relatively few instances when writing, other researchers (Arnold et al, 2009; Kost, 2011; Lee, 2010) found that learners provided feedback on language issues to each other. In addition, Kessler et al. (2012) who examined collaborative texts composed via Google Docs found that the adult ESL learners in their study focused more on lexis than form, and that they solved language problems for the most part correctly. These findings are consistent with the studies on face-to-face collaborative dialogue.

Few studies have investigated the quality of joint texts produced via web applications. For example, Elola and Oskoz (2010) compared essays written by adult L2 Spanish learners
with advanced proficiency levels twice: collaboratively and individually, both using wikis. The researchers found no significant differences in terms of accuracy, fluency and complexity under both writing conditions.

The most explored research topic in this area is L2 learners’ perception of web-based collaborative writing. The majority of the research demonstrated that L2 learners expressed positive views regarding their experience, largely due to availability of peer assistance and the novelty of technology (e.g., Chao & Lo, 2011; Ducate et al., 2011; Elola & Oskoz, 2010; Kost, 2011; Lee, 2010; Lund, 2008; Miyazoe & Anderson, 2011; Oskoz & Elola, 2012; Zorko, 2009).

Finally, few studies have explored the pattern of group interaction during web-based collaborative writing processes. The researchers found that like studies on face-to-face collaborative writing, not all groups work in a collaborative manner (Bradley et al., 2010; Li & Zhu, 2011). Similarly, researchers reported on unequal contributions by group members during web-based collaborative writing (Ducate et al., 2011; Mak & Coniam, 2008; Oskoz & Elola, 2012).

3.5. Summary of the literature review

From this literature review, certain trends can be identified: (a) collaborative dialogue during joint writing is a potential source of L2 learning; (b) contextual variables such as the pattern of pair interaction and proficiency differences among pairs influence the nature of collaborative dialogue during joint writing; (c) L2 learners use their L1 as a cognitive and social tool to mediate their learning during collaborative writing; (d) despite lack of differences in terms of fluency and complexity, pairs seemed to produce more accurate texts than individual writers in cross-sectional studies (Storch, 2005; Storch & Wigglesworth, 2007; Wigglesworth & Storch, 2009); (e) most studies have examined grammar-focused
writing tasks but not composition writing tasks; and (f) most learners appear to enjoy collaborative writing and they tend to feel it enhances their learning opportunities.

However, little is known about: (a) how the same learners engage in both collaborative and individual writing and how their experiences differ (but see Nixon, 2007; Storch, 1999); (b) how the nature of verbal processes differ between collaborative and independent writing, and how the possible differences affect text quality; and (c) the processes, text products, and learners’ opinions about the entire phases of collaborative writing in FL contexts. To fill these research gaps, in the present research I examined the processes, text products, and opinions of university English learners about collaborative and independent writing in a FL classroom in Japan.
Chapter 4

Method

In this chapter, I outline the methods and analytical tools used in this study. I first describe the research site and participants, followed by detailing the data collection tools and procedures. I then describe the pilot study and describe the analytical tools.

4.1. Research site and participants

The research site was a freshman English writing course called Writing 1 (a pseudonym) offered for credit in a foreign language program at a private university in Japan. The foreign language program at this university offers a study-abroad program in which sophomore students spend one year in one of the partner universities outside of Japan as part of their second-year credits. Students who major in English (rather than other foreign languages) and have enrolled in Writing 1 all go to one of the partner universities in English-speaking countries of their choice.

4.1.1. The class (Writing 1)

Writing 1 is an introductory English writing course required for all freshman students who major in English in a foreign language program. All English-major students in the foreign language program were required to take a placement test (using the TOEFL institutional testing program) before commencing the program. Those students who achieved high scores on the test were placed in this Writing 1 course. The average placement TOEFL score among the entire twenty students in Writing 1 was 508.2

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2 One student lost her score and thus the average is calculated among 19 participants.
### Table 4.1

**Course syllabus for Writing 1 (first semester)**

<table>
<thead>
<tr>
<th>Week (date)</th>
<th>Contents</th>
<th>My data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 (April 6)</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>Week 2 (April 13)</td>
<td>Introduction to writing a paragraph and an essay</td>
<td></td>
</tr>
<tr>
<td>Week 3 (April 20)</td>
<td>Structure of a paragraph</td>
<td></td>
</tr>
<tr>
<td>Week 4 (April 27)</td>
<td>Paragraph writing – Topic 1</td>
<td></td>
</tr>
<tr>
<td>Week 5 (May 11)</td>
<td>Paragraph writing – Topic 1 (continued)</td>
<td></td>
</tr>
<tr>
<td>Week 6 (May 18)</td>
<td>Structure of an essay</td>
<td></td>
</tr>
<tr>
<td>Week 7 (May 25)</td>
<td>Essay writing – Topic 1</td>
<td></td>
</tr>
<tr>
<td>Week 8 (June 1)</td>
<td>Essay writing – Topic 1 (continued)</td>
<td></td>
</tr>
<tr>
<td>Week 9 (June 8)</td>
<td>Essay writing – Topic 1 (continued)</td>
<td>Profile questionnaire (in class)</td>
</tr>
<tr>
<td>Week 10 (June 15)</td>
<td>Essay writing – Topic 2 (No lecture)</td>
<td>Collaborative or independent writing (out-of-class)</td>
</tr>
<tr>
<td>Week 11 (June 22)</td>
<td>Essay writing – Topic 3 (No lecture)</td>
<td>Collaborative or independent writing (out-of-class)</td>
</tr>
<tr>
<td>Week 12 (June 29)</td>
<td>Essay writing – Topic 4</td>
<td></td>
</tr>
<tr>
<td>Week 13 (July 6)</td>
<td>Essay writing – Topic 4 (continued)</td>
<td></td>
</tr>
<tr>
<td>Week 14 (July 13)</td>
<td>In-class writing test</td>
<td></td>
</tr>
<tr>
<td>Week 15 (July 29)</td>
<td>Portfolio evaluation</td>
<td></td>
</tr>
</tbody>
</table>
The main goal of the course is for the students to be able to write a five-paragraph essay. The course is 30-weeks long (one academic year – two semesters) and is offered weekly for 90 minutes. The university’s first semester commences in April and ends in late July. I collected data from the 9th week in June 2012, for approximately 3 weeks, mainly outside of the classroom. A brief course syllabus for the first semester appears in Table 4.1 above.

The course professor was a native speaker of Japanese who had been teaching English, including writing, at this Japanese university for ten years at the time of the data collection. The instructor assisted me with recruiting her students and agreed to incorporate the two out-of-class writing sessions as part of the course’s writing assignments. Therefore, two consecutive writing classes were replaced with a one-on-one independent writing and a one-on-one pair writing session. Each participant or pair worked with me (and not with the professor) in a seminar room during the scheduled times. Although the main data collection took place outside of class hours in a university seminar room, these writing sessions were a part of a course.

4.1.2. The participants

I used an intact class to collect data. All twenty students who enrolled in Writing 1 agreed to participate in my study. They were freshman university students (18 to 20 years old) who majored in English in the foreign language program at the time of the data collection. Eight were males and 12 were females, and all were native speakers of Japanese. As shown in Table 4.2 below, these students had received a variety of English education including six years of compulsory English at junior high and high school. The names of all participants

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3 However, two participants (Ichiro and Kojiro) did not attend junior high and high school in Japan. See Table 4.2 for their alternative English learning environments.
have been changed to protect their privacy. Table 4.2 is organized by the pair in which the students worked for the writing task.

Table 4.2

<table>
<thead>
<tr>
<th>Pair No.</th>
<th>Name</th>
<th>Age</th>
<th>Gender</th>
<th>TOEFL score</th>
<th>English-learning years</th>
<th>Length of stay in English-speaking environments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aya</td>
<td>18</td>
<td>F</td>
<td>510</td>
<td>8</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Yuka</td>
<td>18</td>
<td>F</td>
<td>503</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Ryo</td>
<td>18</td>
<td>M</td>
<td>503</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Jo</td>
<td>18</td>
<td>M</td>
<td>513</td>
<td>17</td>
<td>1-month study abroad</td>
</tr>
<tr>
<td>3</td>
<td>Hana</td>
<td>19</td>
<td>F</td>
<td>510</td>
<td>8</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Lisa</td>
<td>20</td>
<td>F</td>
<td>503</td>
<td>7</td>
<td>1-year study abroad</td>
</tr>
<tr>
<td>4</td>
<td>Ichiro</td>
<td>19</td>
<td>M</td>
<td>490</td>
<td>13</td>
<td>International school in Japan (8 years); middle school in Australia (3 years)</td>
</tr>
<tr>
<td></td>
<td>Sala</td>
<td>19</td>
<td>F</td>
<td>570</td>
<td>8</td>
<td>1-year study abroad</td>
</tr>
<tr>
<td>5</td>
<td>Fumi</td>
<td>19</td>
<td>F</td>
<td>500</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Waka</td>
<td>18</td>
<td>F</td>
<td>490</td>
<td>6</td>
<td>1-month study abroad</td>
</tr>
<tr>
<td>6</td>
<td>Hiro</td>
<td>19</td>
<td>M</td>
<td>497</td>
<td>7</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Ema</td>
<td>19</td>
<td>F</td>
<td>495</td>
<td>10</td>
<td>4 years in the U.S. with her family (8-12 years old)</td>
</tr>
<tr>
<td>7</td>
<td>Kana</td>
<td>19</td>
<td>F</td>
<td>513</td>
<td>6</td>
<td>3-weeks study abroad (twice)</td>
</tr>
<tr>
<td></td>
<td>Miwa</td>
<td>18</td>
<td>F</td>
<td>507</td>
<td>6</td>
<td>1-month study abroad</td>
</tr>
<tr>
<td>8</td>
<td>Sho</td>
<td>18</td>
<td>M</td>
<td>497</td>
<td>9</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Nami</td>
<td>18</td>
<td>F</td>
<td>543</td>
<td>7</td>
<td>N/A</td>
</tr>
<tr>
<td>9</td>
<td>Kojiro</td>
<td>18</td>
<td>M</td>
<td>530</td>
<td>14</td>
<td>15 years with his family (born and raised in the U.S.)</td>
</tr>
<tr>
<td></td>
<td>Chika</td>
<td>19</td>
<td>F</td>
<td>?*</td>
<td>15</td>
<td>3-week visits yearly for 15 years</td>
</tr>
<tr>
<td>10</td>
<td>Go</td>
<td>18</td>
<td>M</td>
<td>493</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Tomo</td>
<td>18</td>
<td>M</td>
<td>493</td>
<td>12</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Note: Chika lost her score sheet.
According to their profile questionnaires, five students had lived in English-speaking countries for more than one year (Ema, Ichiro, Kojiro, Lisa and Sala), and other five had participated in a 3-week to 1-month study abroad program (Chika, Fumi, Jo, Kana and Miwa) in their high school years. Therefore, although their placement test scores were somewhat similar, it is likely that some English proficiency differences existed among the participants, particularly in a communicative sense. Since the students were well aware that they would be starting a study-abroad program in less than a year’s time, their motivation for studying English seemed quite high. In fact, their questionnaire responses showed that their self-rated motivation level for studying English was 8 out of 10 on average.

The Writing 1 class met once a week, but in addition these students were taking at least four other required English courses together during their first university semester. Given that this cohort met a few times a week in class, they seemed to feel comfortable with each other.

4.2. Data sources

I collected and analysed three main sources of data: audio-recordings of collaborative writing (10 recordings) and independent writing (20 recordings) sessions complemented by stimulated recall protocols; collaboratively and independently written essays (30 essays) and semi-structured interviews with each student (20 interview protocols) complemented by pre-task questionnaires.

4.3. Data collection procedures

Data collection took place for approximately three weeks, mainly outside of the students’ regular class hours in an unoccupied classroom at the university. At the beginning of June, I visited the Writing 1 class and distributed a recruitment letter inviting the students to participate in my study. All students agreed to take part. They completed an informed consent
form and filled out a pre-task questionnaire in class. Table 4.3 summarizes the time frame and events of the data collection.

Table 4.3

**Data collection procedure**

<table>
<thead>
<tr>
<th></th>
<th>Group A ( n = 10 )</th>
<th>Group B ( n = 10 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td>Pre-task questionnaire (20 min)</td>
<td>Pre-task questionnaire (20 min)</td>
</tr>
<tr>
<td>(in class)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Week 2</strong></td>
<td>Collaborative writing ( A^* ) (30 min)</td>
<td>Independent writing ( B^* ) (30 min)</td>
</tr>
<tr>
<td>(out of class)</td>
<td>Stimulated recall (5 min)</td>
<td>Stimulated recall (5 min)</td>
</tr>
<tr>
<td><strong>Week 3</strong></td>
<td>Independent writing ( B ) (30 min)</td>
<td>Collaborative writing ( A ) (30 min)</td>
</tr>
<tr>
<td>(out of class)</td>
<td>Stimulated recall (5 min)</td>
<td>Stimulated recall (5 min)</td>
</tr>
<tr>
<td></td>
<td>Post-task interview (20~30 min)</td>
<td>Post-task interview (20~30 min)</td>
</tr>
</tbody>
</table>

* Note: There were two writing prompts – Prompt A and B.

4.3.1. **Pre-task questionnaire (week 1)**

At the first in-class meeting, I asked all the participants to complete a pre-task questionnaire, which took 20 minutes. The questionnaire was administered in Japanese and included background information such as gender, age, educational background, details about English learning, the level of English proficiency, perceived writing proficiency, their preference of learning style and attitude toward pair interactions in the L2 classroom (see Appendix A for the questionnaire).
4.3.2. Writing tasks (week 2 & 3)

1) The task

All participants wrote an argumentative essay twice: collaboratively and independently following the two writing prompts (see Appendix B). As shown in Table 4.4, I counterbalanced these two writing conditions as well as the two writing prompts across participants to control the order effect of the writing conditions and prompts. That is, in Week 1, half of the participants (Group A) engaged in the collaborative writing with Prompt A while the rest (Group B) worked on the independent writing with Prompt B. These groups switched roles in Week 2.

Table 4.4

Schedule for writing tasks

<table>
<thead>
<tr>
<th>Session</th>
<th>Day</th>
<th>Independent writing (30 min)</th>
<th>Collaborative writing (30 min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Name</td>
<td>Topic</td>
</tr>
<tr>
<td>First</td>
<td>1</td>
<td>Aya</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Yuka</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Ryo</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Jo</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Hana</td>
<td>A</td>
</tr>
<tr>
<td>Second</td>
<td>6</td>
<td>Hiro</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Ema</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Kana</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Miwa</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Sho</td>
<td>B</td>
</tr>
</tbody>
</table>
At my request, the course instructor assigned these two writing tasks as an out-of-class assignment. All the students were required to submit these two compositions as part of their regular course assignments. Thus, these writing tasks were fairly important for them. Each student was asked to attend two writing sessions (with their partner and independently) in a university seminar room outside of scheduled class hours over a two week period. I, not the course instructor, organized these out-of-class writing sessions. There were no lectures for Writing 1 during this period. The two consecutive classes were replaced with these writing sessions.

At the beginning of each session, I described the upcoming writing task and clarified any unclear points (see Appendix C for task instructions). For the independent writing session, I encouraged the participant to talk to him- or herself aloud, particularly when they encountered problems, but they were not required to do so. The purpose of asking this was to elicit the participant’s private speech so as to understand how each learner scaffolded him- or herself during their writing process. My predicament in documenting the students’ verbal scaffolding processes while writing alone was how I could elicit their private speech. While I would have liked to have my participants produce sufficient private speech for my analysis, it was equally important to minimize the intervention so that the verbal data elicited would be comparable to paired dialogue. In the end, my compromise was to encourage the participants to speak to themselves aloud during the task engagement rather than instructing them to do so. Moreover, unlike a think-aloud technique, I did not model the verbalization process for them nor did I provide them a practice session. Since this ‘encouraged private speech’ should be distinguished from spontaneously occurred private speech and also from think-aloud, I call it ‘speech for self’ in this study. It is important to note that I am aware of the different nature of

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4 The instructor gave the students opportunities to revise their draft before submitting them for evaluation. However, the revision was not a part of my data collection. Only the production of the first draft is the focus of the current study.
the two writing contexts. In collaborative writing, the learners were asked to write jointly (but they were not encouraged to talk to each other), and in independent writing, they were asked to write alone (and were encouraged to talk to themselves). Having acknowledged this distinction, my belief is that the nature of the verbalization (e.g., its contents, functions) produced by the participants is comparable.

Following this step, the participants performed the writing task, which was audio-recorded for later analysis. During the collaborative writing tasks, I sat at the back of the room to be ready for any questions that might arise. I also noted the task completion time and any salient features of the interactions. For the independent writing tasks, however, I left the room after giving instructions and waited outside until the required time was over, as the participants suggested that they would feel more comfortable writing (and producing speech for self) without my presence.

2) The writing prompts

To ensure the equivalence of the two different writing prompts in terms of interest, familiarity and difficulty for the participants (Watanabe, 2004), I used two prompts from the ETS website for the Test of English as a Foreign Language (TOEFL) (http://www.ets.org/Media/Tests/TOEFL/pdf/989563wt.pdf), which the original test designers had deemed to be approximately equivalent to each other for this standardized English test. I chose the two specific prompts shown in Appendix B because these topics were used by prior researchers (M. Suzuki, 2008; W. Suzuki, 2012) who focused on similar research purposes (i.e., the relationship between writing and languaging) with a similar population of participants (i.e., university English learners in Japan) to that of the current study. These researchers reported that their participants did not seem to have difficulty producing compositions with these prompts.
3) Time on task

Researchers examining collaborative writing have generally assigned either no time limit (e.g., Storch, 2005; Watanabe, 2008) or assigned a longer timeframe for pairs than for individuals (e.g., Storch & Wigglesworth, 2007) based on the finding that pairs take longer to produce a joint text than when writing independently (Storch, 2005). Nevertheless, one could argue that differences in the text quality in the two writing conditions may be attributed to the uneven completion time allotted. In order to circumvent this kind of argument, I enforced equal conditions by allocating the same amount of time for both collaborative and independent tasks.

4) The pairs

Considering the potential effects of patterns of pair interaction on collaborative dialogue (e.g., Storch, 2002; Watanabe & Swain, 2007) and the acquaintanceship effect on the quality of joint texts (O’Sullivan, 2002), I initially considered the option that my participants might self-select their pairs. In the end, however, I decided to pair them up based on their availability for two main reasons: familiarity among the classmates and scheduling difficulties. Donato (2004) stressed the importance of time required when building social relations for collaboration. Given that this intact class met at least four times a week during their required freshman courses for more than two months before the beginning of the data collection, it seemed unlikely that the students might feel uncomfortable working with any assigned partner. In fact, when I visited the class for recruitment, the class appeared to have built a friendly atmosphere, and the students seemed to have paired up with students sitting by them without any difficulties. The second reason was due to scheduling. The students had busy schedules filled with classes, extra-curricular activities and part-time jobs, so arranging the time available for two self-selected students for ten pairs seemed to be challenging. Therefore, I requested that all the participants were to submit their timetable specifying their availability. I
then formed ten pairs based on their schedule and the availability of the seminar room. Consequently, four female-female, two male-male and four female-male pairs were formed.

5) The mediational tools

In writing their essays, I aimed to provide the students with environments parallel to in-class writing in view of accessible meditational tools (except for the teacher’s assistance). Thus, I prepared some scratch paper for pre- (and while-) writing if they needed it, and allowed them to use their bilingual dictionaries. Under the collaborative writing condition, each pair was asked to use only one dictionary. When notifying them of their allotted time and place for the writing session via email, I informed the students to bring their own English-Japanese dictionary if they wished to use it for the writing tasks. All but one student in both conditions\(^5\) brought their own electronic dictionary for the tasks. Under the collaborative writing condition, all the pairs quickly decided on which dictionary to use.

4.3.3. Stimulated recall (weeks 2 & 3)

Immediately after the participants completed one of their writing tasks, I conducted a one-on-one stimulated recall for approximately five minutes. Under the collaborative writing condition, I asked one of the participants to leave the room while conducting a stimulated recall for the other. The purpose of administering this recall session was for me to better understand what meditational strategies the students used to scaffold themselves or their peer. I asked each participant to explain what they did while they completed their composition, particularly what difficulties they encountered and how they resolved these difficulties in detail (see Appendix D for the recall questions). The recall session was conducted in Japanese and was recorded for later analysis.

\(^5\) One student (Jo) noted at the post-task interview that he forgot to bring his dictionary for his independent writing and thus did not use it.
4.3.4. Post-task interview (week 3)

After two writing tasks were completed, I provided each participant with a one-on-one semi-structured post-task interview (see Appendix E for the interview questions). The aim of the interview was for the participants to reflect on their experiences writing in pairs and independently. The interview was conducted in Japanese and lasted for 20 to 30 minutes. I audio-recorded each interview for later analysis.

4.4. Pilot study

I conducted two small-scale pilot studies to determine the feasibility of each instrument (profile questionnaire, writing topics, stimulated recall and post-task interview protocols) and to gauge how long each data collection stage took and whether it flowed smoothly. The first pilot study took place in Toronto in May, 2012. The participants (Ai and Tohko, both pseudonyms) were two Japanese females in their 20s staying in Toronto at the time of the pilot study. They had both earned a Master’s degree in an English-speaking country and had an advanced level of English proficiency. Due to the participants’ schedule, the pilot study was conducted in one day. Table 4.5 below describes the schedule of the pilot study.

From the pilot study, I identified one major suggestion to more effectively administer the main study – modifying the instructions for independent writing. In developing the instructions to elicit participants’ private verbalization during independent writing, my intention was to provide the students with a writing environment as comparable to the collaborative writing condition as possible. Therefore, the instructions I prepared for the pilot study to elicit private verbalization were stated as, "[…] please complete a composition like you do at home. You may want to talk to yourself aloud if you normally do when writing alone at home." Nevertheless, the pilot study revealed that these instructions were found to be
unclear by both of the participants, resulting in them asking me to clarify what they were supposed to do. Accordingly, I changed the instructions in such a way that I encourage the participants to talk to themselves. The modified instruction read:

[…] when you write alone at home, do you talk to yourself sometimes? I do. Today, I encourage you to talk to yourself while writing, which is why I have a recorder here. However, if it interferes with your writing, you don’t have to talk aloud. Do you think you might feel more comfortable writing alone? If so, I will wait for you outside.

Table 4.5

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Participants</th>
<th>Allocated time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Independent writing and stimulated recall</td>
<td>Ai</td>
<td>30 min</td>
</tr>
<tr>
<td>2. Independent writing and stimulated recall</td>
<td>Tohko</td>
<td>30 min</td>
</tr>
<tr>
<td>3. Profile questionnaire</td>
<td>Ai and Tohko</td>
<td>30 min</td>
</tr>
<tr>
<td>4. Break</td>
<td>Ai and Tohko</td>
<td>30 min</td>
</tr>
<tr>
<td>5. Collaborative writing and stimulated recall</td>
<td>Ai and Tohko</td>
<td>30 min</td>
</tr>
<tr>
<td>6. Post-task interview with</td>
<td>Ai</td>
<td>20 min</td>
</tr>
<tr>
<td>7. Post-task interview with</td>
<td>Tohko</td>
<td>20 min</td>
</tr>
</tbody>
</table>

Furthermore, since I stayed in the back of the room taking notes, my presence might have promoted the participants’ nervousness. Thus, for the second pilot study, I decided to leave the room so the participant could feel that they could write comfortably. In addition, I incorporated some minor changes such as the wording of the questionnaire and post-task interview questions to be more comprehensive. I did not, however, eliminate or add items to these instruments. The participants did not seem to have notable difficulties writing about the
two writing prompts. Furthermore, the timing for each procedure worked smoothly. In June, 2012, I conducted the second pilot study in Japan. The intention of this pilot study was to test the above-mentioned change (i.e., instruction for independent writing). Also, it seemed important to try out the suitability of the writing prompt and task time with somebody who shared a similar profile to the intended participants of the main study (i.e., a Japanese university student who is at an intermediate level of English proficiency). For this purpose, I only tested an independent writing task with one participant. The participant (Momo – pseudonym) was a Japanese university student (female, 22 years old) who was at a low-intermediate level of English proficiency at the time of the study. I first asked her to write an essay independently and then conducted a stimulated recall. Since she preferred to write alone, I explained how to use the voice recorder and left the room. The modified writing instruction seemed to be clear to Momo, and she produced some private verbalization while writing. Momo spent the entire 30 minutes writing a 168-word essay. I considered this to be acceptable and continued using the topic and task time for the main study. I did not use any of the pilot data for the main study.

4.5. Data analysis

4.5.1. Analysis of the verbalization data

Both pairs and individuals mainly used their L1 (Japanese) during their writing. Only two students (Chika and Lisa) used mostly English during their independent writing tasks. Prior to the task, I provided no instructions regarding what language was to be used for verbalization, nor did any of the participants raise that question to me.

I first transcribed the 30 protocols of 30-minute audio-recordings verbatim. I then analysed them for three aspects: (a) language-related episodes (LRE), (b) text-related episodes (TRE), and (c) scaffolding episodes (SE). Since language is a multifaceted phenomenon that
involves various aspects of discourse, I coded the verbalization data for three different types of episodes, instead of coding each data segment only once. That is, the analyses involved polytonic rather than monotonic coding (Smagorinsky, 1994). Therefore, these kinds of episodes were not mutually exclusive. Data from a particular participant in the study could be coded in three different kinds of episodes. (For an example coding of LREs, TREs and SEs, see Appendix F).

After transcribing and analysing the transcripts, I translated from Japanese into English for English readers the segments that appear in the thesis. To ensure the accuracy of my translation, I asked a Japanese-English bilingual to review all the excerpts in Japanese and English (For the transcription conventions, see Appendix G).

1) Language-related episodes (LRE)

To understand how languaging mediates opportunities for learning during pair and independent writing tasks, I used language-related episodes as a unit of analysis. An LRE was defined by Swain and Lapkin 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” (1998, p. 326) or “reflect on their language use” (2002, p. 292). LREs have been recognized as a useful construct for understanding the processes and products of L2 learning. Several studies have shown that LREs may represent L2 learning in progress (e.g., Basturkmen, Loewen, & Ellis, 2002; Leeser, 2004; Swain & Lapkin, 1998; Watanabe & Swain, 2007; Williams, 2001). I first identified LREs then coded them for frequency, focus and outcomes.

(a) Frequency of LREs

In counting the frequency of LREs in a pair writing condition, I first counted the frequency of LREs per pair, followed by counting the frequency of turns per LRE. Each time
one person spoke, it was counted as one turn. I then calculated the ratio of turns per LRE by each pair.

(b) Types of LREs

To investigate on which aspects of the target language the learners focused, I analysed the LREs for different focuses. For this coding procedure, I drew from formerly established classifications (M. Suzuki, 2008; Qi & Lapkin, 2001). The LREs identified in the present study fell into the following four broad categories (see Excerpts 1, 2, 3, 4 below for examples for each category):

1. Form: aspects of morphology or syntax
2. Lexis: word meanings, word choices, and use of prepositions
3. Mechanics: punctuation and spelling
4. Stylistic: sentence-level stylistic changes including sentence structure and active/passive voice

Excerpt 1 (Form-focused LRE)

298 Miwa Figure skater …s
299 Kana Figure skaters
300 Miwa Ah, here, this one
301 Kana Oh, this [skater] becomes a plural form because it’s after ‘one of the.’
302 Miwa Yeah, yeah, yeah.
303 Kana Skaters

Final text: And he is one of the world-class figure skaters.

Excerpt 2 (Lexis-focused LRE - preposition)

Kojiro He is not mature, not mature enough … to? … for? … I think it’s to … yeah, to go to that tournament.

Final text: Most people says that he is not mature enough to go to that tournament […].

6 Utterances in italics represent speech originally produced in Japanese (using my translation). The number next to the participants’ names represents the number of turns in the entire exchange. For the transcription conventions, see Appendix F. In addition, I have provided a part of the written text under discussion below each LRE, when needed to help clarify the exchange, which I marked as ‘final text.’
Excerpt 3 (Mechanics-focused LRE)

33 Chika Einstein
34 Kojiro How do you spell Einstein? Was it ‘e-i-n-stein’? e-i-n? e-i-n, okay.

Excerpt 4 (Stylistic-focused LRE)

Hiro […] Are there any politicians thinking? … these days, these days… I think mmm Are there? And the answer is no. I don’t think there are, so ‘I think my answer is ‘no’ mmm. How can I say? … answer … Nobody asked me a question so is it strange to use the word ‘answer’? … I think … I think ‘no.’

Final text: Are there politicians in Japan who think seriously about Japanese future these days? I think “No.”

(c) Outcomes of LREs

To find out how each pair or individual tackled the linguistic problems they encountered, I coded LREs for their linguistic outcomes. The coding scheme was adapted from Swain (1998):

Outcome 1 Problem solved correctly or acceptable solution
Outcome 2 Problem not solved or disagreement about problem solution
Outcome 3 Problem resolved incorrectly

The following excerpts illustrate examples for each outcome type.

Excerpt 5 (Outcome 1 – Solved correctly)

208 Ichiro Yes, I want to him to have a live performance.
209 Sala Ah, ‘to have a live’?
210 Ichiro Yeah.
211 Sala Or concert?
212 Ichiro Yeah, concert.
213 Sala Him to have or do?
214 Ichiro I think ‘him to have a concert.’

Final text: […] we want to meet him and want him to have a concert.
Excerpt 6 (Outcome 2 – Unsolved)

Hiro  

Ahh ‘kokorozashinakaba’ [halfway fulfilling one’s life ambitions] is a tricky word … mmm ‘kokorozashinakaba’ … ‘nakaba’ [halfway]? … [checking a dictionary] No, not ‘exactly a half’ … nakaba … mmm … So he contributed, but was killed … was killed … mmm … I don’t know.

Final text: So I would like to meet Ryoma Sakamoto, who made a great contribution to politics in the last years of the Edo Era, was killed by someone.

Excerpt 7 (Outcome 3: Solved incorrectly)

Sho  

Disadvantage, disadvantage … Ah! advantage … I can say unadvantageous.

Final text: […] He strived to recover the relationship between Japan and foreign countries and resolve the treaty which it was unadvantageous for Japan.

To ensure the reliability of the coding, I employed intra- and inter-coder checks. The second coder is a bilingual Japanese-English educator who has experience in teaching English writing to Japanese EFL learners. After receiving a training session with me, the second coder was given 50% of the unmarked copies of the transcripts and independently coded the frequency, type, and outcomes of LREs. Inter-coder reliability was 94% agreement for the segmentation of LREs, 88% for type, and 100% for outcome (based on simple percentage agreement). We discussed all discrepancies and reached 100% agreement. A couple of weeks later, I coded all the transcripts once again. Intra-coder reliabilities were 97% agreement for the frequency and 100% for the type and outcome of LREs.

2) Text-related episodes (TREs)

The idea of text-related episodes is adopted from Storch (2005) and M. Suzuki (2008). Since the participants in my study were freshman students majoring in English who had recently been introduced to the basics of English academic writing, I was intrigued to investigate whether and how they talked about this new knowledge during their writing tasks. I considered TREs as any instances in which learners talked about how to compose an
academic English essay. Specifically, these episodes included the parts in which learners discussed the organization, content, and format of the text. The rationale for this categorization is to focus on the academic writing skills that were newly introduced to them in the Writing 1 class. For this reason, I excluded the episodes concerning ‘generating ideas’ as it is not a new aspect of writing introduced in class. Accordingly, the ‘content’ category only involves the examination and evaluation of the content after it had been produced as a written text (see Excerpt 9 below). I first identified all TREs then classified them into three broad categories: organization, content, and format.

1. Organization: Outline of the essay (introduction, thesis statement, body, conclusion), paragraph development (topic sentence, support sentences)
2. Content: Examination and evaluation of the content,
3. Format: Indentation, paragraphing, and title

The following excerpts from the collaborative and independent writing display examples for each category.

**Excerpt 8 (Organization-focused TRE)**

20 Fumi What was that again? What are we supposed to write at the beginning?
21 Waka Intro, intro
22 Fumi Introduction
23 Waka Introduction with a thesis in it.
24 Fumi Yeah.
25 Waka And then two or three bodies to follow.
26 Fumi Two bodies, maybe? We don’t have much time.
27 Waka Two bodies?
28 Fumi Yeah.
29 Waka Okay. Then we will write a conclusion at the end.

**Excerpt 9 (Content-focused TRE)**

Ichiro … But I feel the reasons, reasons, contents are kind of tenuous. I want to make the contents more convincing … mmm but I don’t know much about Einstein so it makes it difficult …
Excerpt 10 (An example of generating ideas - NOT a content-focused TRE)

Miwa … I would like to meet Michael Jackson. He, he … pop star … he is the number one pop star in the world … the reason … his death remains a mystery and his fans around the world including myself want to know why or something like that.

Excerpt 11 (Format-focused TRE)

    71 Waka    [Looking at what Fumi wrote] Don’t we have to make some spaces here? Spaces here at the beginning [of the paragraph]?
    72 Fumi    Ahh yes, can’t miss that. [laughing]
    73 Waka    [laughing]
    74 Fumi    I forget this [indentation] all the time.

In order to ensure reliability, the second coder was given 50% of the unmarked copies of the transcripts and independently coded the TREs. Inter-coder reliability for identification of the TREs was 92% agreement, and for each category was: 88% for organization, 90% for content, and 100% for format. For the final coding we discussed the data until an agreement on the coding for each TRE was reached. A couple of weeks later, I coded all the transcripts once again. Intra-coder reliabilities were 98% agreement for the frequency, and 100% agreement for the type and outcome of LREs.

3) Scaffolding episodes (SEs)

For this analysis, I operationally defined scaffolding as the process of support mediated by language provided by a peer (i.e., peer-scaffolding) or the learners writing by themselves (i.e., self-scaffolding) to achieve a higher level of performance that was initially beyond the learner’s actual level of ability. To identify scaffolding episodes in the transcriptions, I drew from the literature investigating the meditational strategies for expert-novice (Aljaafreh & Lantolf, 1994; Weissberg, 2006; Wood et al., 1976) and peer-peer assistance (de Guerrero & Villamil, 2000; DiCamilla & Antón, 1997; Ohta, 2001; Storch, 2005; Villamil & de Guerrero, 1996). I primarily referred to “substrategies for providing scaffolding” during the university L2 learners’ peer feedback in Villamil and de Guerrero’s (1996) study (p. 62). I identified
eleven scaffolding features: (a) repetition (DiCamilla & Antón, 1997); (b) reading (Storch, 2005); (c) affective support (Villamil & de Guerrero, 1996; Wood et al., 1976); (c) translating; (e) questioning; (f) suggesting; (g) assessing; (h) justifying; (i) eliciting (all from Villamil & de Guerrero, 1996); (j) restating (Villamil & de Guerrero, 1996; Weissberg, 2006) and instructing (Villamil & de Guerrero, 1996; Wood et al., 1976). The following excerpts from the collaborative and independent writing represent examples for each category.

(a) Repetition: Repeating him/herself or what has been said by the peer, either repeating exactly or partially.

Excerpt 12

403   Nami   We?
404   Sho   We
405   Nami   Want to know
406   Sho   Want to
407   Nami   Want to know how to
408   Sho   How to deal with
409   Nami   Yeah. How to deal with it… with it

Final text: Thus we want to know how to deal with the problems like language, culture and custom.

Excerpt 13

Fumi   Considered. Is it ‘considerate”? considerate, considerate, considerate … he is considered, considered … I don’t know. Can I use this?

Final text: He was a pioneer who consider about the right of equality.

(b) Reading: Simply reading or re-reading the text they had composed.

Excerpt 14

136   Hana   [while writing] ask her experience. Is this [experience] plural?
137   Lisa   Yeah … [reading] “I’d like to ask her experience she had.” Yeah, experiences.
138   Hana   Okay.

Final text: So I’d like to ask her experiences.
Excerpt 15

Lisa: I … I was … surprised to see [while writing] see the news that many people, people … were crying and depressed [reading] “I was surprised to see that many people were crying and depressed” [while writing] by his death … [reading] “I was surprised to see that many people were crying and depressed by his death” which …

Final text: I was surprised to see the news that many people were crying and depressed by his death because […].

(c) Affective support: Verbal scaffolding to support learners’ affective aspects such as reducing stress, controlling frustration and keeping motivated.

Excerpt 16

[Talking about the sentence structure of the thesis statement for 30 turns]

225 Nami: Then, we can say ‘that.’ Ok, let’s do it.
226 Sho: Sorry I spent too much time on this.
227 Nami: Don’t worry. We can make it.

Excerpt 17

Yuka: [after reading the prompt that asks them to write about a famous athlete or entertainer] … Be decisive, be decisive, be decisive, make a decision without hesitating … be decisive … if you hesitate your decision … if you hesitate … [writing]

(d) Translating: Translating from the L1 into the target language using a dictionary or without it.

Excerpt 18

352 Aya: We still have discrimination, discrimination
353 Yuka: Can we say ‘have discrimination’? We can, can’t we?
354 Aya: [checking a dictionary] discrimination, discrimination
355 Yuka: Is there ‘do discrimination’?
356 Aya: Against racial discrimination, racial discrimination … discriminate against races
357 Yuka: Oh! [pointing to an example sentence in a dictionary] “we still have problem of discrimination.”
358 Aya: We still have problem of. We can say ‘problem of’, problem.
359 Yuka: Problem of discrimination

Final text: First, we still have problems of discrimination.
Excerpt 19

Kana  How do you say kansensuru [infect]? [checking a dictionary] infection, in- …
       inf-, infect, infect, I see.

Final text: He was infected with yellow fever when he researched it and died of it.

(e) Questioning: Asking a question or for suggestion to him/herself or his/her partner.

Excerpt 20

197  Go  [while writing] When he called to … Can we say ‘gather to sing’?
       ‘Called to gather to sing’?
198  Tomo I think we need an object after ‘called.’
199  Go  Called famous singers

Final text: First, when he called famous singers from all over the world to make a song […]

Excerpt 21

Miwa Mystery? Is ‘mystery’ cun-, coun-, coun-, countable?

Final text: First, the reasons why he died is still remained mystery.

(f) Suggesting: Suggesting ideas or specific solutions to the question raised.

Excerpt 22

204  Jo  … even though, he is originally … he is black … innately, inherent in
       his nature …
205  Ryo  Why don’t we simply say ‘he was born as Black’?
206  Jo  Ohh. Is a simple expression better? It’s easy to understand. ‘Even
       though he was born as Black,’ okay …

Final text: So, we want to know his purpose even though he was born as black.

Excerpt 23

Waka  How about asking in a topic sentence ‘I am thinking like this and I’d like to
       ask if it is right’? Yeah, this should work.
(g) **Assessing**: Making evaluative comments on the learner’s ideas.

**Excerpt 24**

109 Hiro *‘Going to suggest’ so ‘we shall suggest XXX University.’*
110 Ema *Well, ‘suggest’ is a little …*
111 Hiro *No, not ‘suggest.’*
112 Ema *I think ‘we think’ is better.*
113 Hiro *Yeah, ‘we think’ is good.*

Final text: [...] but we think we can meet comedians who graduated from XXX university [...] .

**Excerpt 25**

Yuka *Her story is always funny … mmm. The quality of my sentences is low. I have to use more difficult vocabulary.*

(h) **Justifying**: Explaining or justifying choices

**Excerpt 26**

259 Aya *How, how can we solve those, it’s not ‘those’… solve the problems?*
260 Yuka *These? … those? Wait [reading] “we want to ask him how can we solve” … these, isn’t it?*
261 Aya *But we haven’t provided any specific examples yet, if we say ‘these’ examples. So how about solve ‘it’?*

Final text: So we want to ask him how can we solve these problems.

**Excerpt 27**

Ema *First, he … he has, he was, he is … because people still say [that he is handsome], I should use ‘he is’ … still say it so … he has been, he has been.*

Final text: First, he has been said that he was very handsome.

(i) **Eliciting**: Eliciting reaction, opinion or supplementary information.

**Excerpt 28**

361 Lisa *Do you have anything else you want to add? Do you want to say something at the beginning [of a concluding paragraph]?*
362 Hana *No, that’s okay.*
(j) **Restating:** Interpreting or paraphrasing what has been said or written.

**Excerpt 29**

164  Jo  [...] if you were born as the yellow race, it is natural to spend their life and die as that race. I mean everybody does that... in general. What can I say? In rare cases, people might change their race but I think it’s common to live throughout one’s life as the same race as they were born. I want to write like that.

165  Ryo  So, you mean what is the reason that he was stuck on becoming White.

166  Jo  Yeah. Oh, yes. We can say ‘what was the reason for sticking to the idea of becoming White.’

(k) **Instructing:** Providing a short lecture on aspects of grammar or writing. Modeling or explaining an idealized form of solutions to a task.

**Excerpt 30**

100  Kojiro  But I was told it doesn’t work. You know, there is a topic [meant a thesis statement] and body, body, body and a conclusion at the end [of an essay]. I was told that each body has to be separated. They cannot be connected. They each have to be different but the fact is that they all followed the topic sentence [meant thesis statement], like three pieces of items skewered. It is how they write an English essay.

101  Chika  Oh, I see. So this [an idea about pacifism] has to be one of the bodies.

102  Kojiro  Exactly.

I used intra- and inter-coded checks to ensure the reliability of the coding. The same second coder, who coded the LREs and TREs data, independently coded 50% of the unmarked copies for identification of the scaffolding episodes and classification of the eleven scaffolding categories based on their operational definitions. We reached higher than 85% agreement across identification (86%) and all scaffolding categories (88% on average). We discussed and resolved all the disagreements. Two weeks later, I coded all the transcripts again. Intra-coder reliabilities were 98% agreement for identification of scaffolding episodes and 95% on average for all scaffolding categories.
4) Quantitative analysis of LREs, TREs and SEs

To examine the significance of statistical differences between the frequency of LREs, TREs, and SEs in the collaborative and individual writing conditions, I conducted Wilcoxon signed-ranks tests, and calculated the effect sizes. I ran a Kolmogorov-Smirnov test to determine if the LREs, TREs, and SEs were distributed normally. The distributions of the collaborative LREs ($D (20) = .21, p < .05$), and of the collaborative TREs ($D (20) = .24, p < .01$) were not normal. Therefore, I chose to use non-parametric analyses. For the same reason, I used medians rather than means to analyze and discuss the frequency of the LREs, TREs, and SEs.

5) Quantification of data

As discussed earlier in Chapter 2 (p. 8), SCT views cognition and knowledge to be constructed through interaction within social and cultural contexts. Following this SCT premise, to interpret and discuss the verbalization data, I treated a pair of learners as one unit who shared the same learning context rather than as two individuals engaging in the same task. That is, I considered the production of LREs, TREs and SEs in terms of one individual learner versus one pair as one unit. When one student produced a greater frequency of LREs when writing in pairs than writing individually, one may argue that this was the expected result because there were 2 people involved in a collaborative writing condition. However, through the lens of SCT, learning occurs amongst learners working together because they become sources for each other, and serve as part of each other’s knowledge, rather than merely transmitting knowledge to each individual learner. Therefore, it is meaningful to consider a pair as a single unit of activity.
4.5.2. Analysis of the written texts

I analysed the quality of the written texts completed by the participants using holistic and multiple-trait rating scales as well as by measuring the relative fluency of the written text by tallying the total number of words. Specifically, I used Hamp-Lyons’ (1991) 9-point global scale and 9-point communicative profile scale to rate the essays (consisting of the five traits of Communicative quality, Organization, Argumentation, Linguistic Accuracy and Linguistic Appropriacy). Each of the sub-scales was scored on a 9-point scale with one being the lowest score and nine the highest. The rationale for using Hamp-Lyons’ scales is, in addition to its explicitness and validation (Hamp-Lyons & Henning, 1991), because other researchers who investigated the effects of collaborative and independent writing on English text quality also employed the same scales (e.g., Nixon, 2007; M. Suzuki, 2008). Moreover, Hamp-Lyons and Henning (1991) reported high reliabilities for these scales in relation to assessments in the TOEFL independent writing essays.

Two raters independently scored all thirty essays. One assessor was a native speaker of English and the other was a non-native speaker of English who had lived in Canada for six years and possessed a high level of English proficiency. They both held postgraduate degrees in second language education and had experiences teaching university-level academic English writing for more than three years. I trained the two assessors on the rating scales. First, I provided an orientation session, explaining the rating procedure and rating scales to be used. I did not explain, however, the purpose of the research to the raters so as to avoid them having preconceived ideas about the essays. We then practiced rating a sample of essays (which was not the data from the current research) together using the scales. Following this, I handed the raters a typed and randomly ordered copy of the thirty essays. I used a table of random...
numbers and typed these numbers on each essay, and mixed the order of the essays from two writing tasks in order to obscure the collaborative and independent essays.\footnote{Nevertheless, since most pairs (nine out of ten) used ‘we’ for their essays, it was possible to identify the different writing conditions, although the assessors stated that they did not notice this when I asked them afterwards.}

After receiving their scores independently, I calculated the inter-rater reliability between the two raters for both global and communicative profile scales. The total number of the decisions the raters made was 180 (five categories for communicative profile scale + global scale times 30 essays). Inter-rater reliability for the global scale was 33\% agreement (exact match); however, 67\% of the decisions were within one point difference. That is to say, all the decisions were within one point difference among the total of 9 points. I considered this proportion to be acceptable. Table 4.6 below presents inter-rater reliabilities for the global scale and the five traits of the communicative profile scale rated. Overall, on the global scale, the two raters scores’ were significantly related ($r_s = .5$, $p < .01$). As for multi-trait scales, for the five traits, inter-rater reliability ranged from 27\% to 43\% (exact match) while 50\% to 63\% (1 point difference) and 0\% to 17\% (2 point difference). I set up a meeting for the two raters to discuss the differences, during which all the disagreements were resolved.

### Table 4.6

<table>
<thead>
<tr>
<th>Aspects rated</th>
<th>Exact match</th>
<th>1 point difference</th>
<th>2 points difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global scale</td>
<td>33%</td>
<td>67%</td>
<td>0%</td>
</tr>
<tr>
<td>Communicative quality</td>
<td>40%</td>
<td>60%</td>
<td>0%</td>
</tr>
<tr>
<td>Organization</td>
<td>36%</td>
<td>57%</td>
<td>7%</td>
</tr>
<tr>
<td>Argumentation</td>
<td>33%</td>
<td>50%</td>
<td>17%</td>
</tr>
<tr>
<td>Linguistic accuracy</td>
<td>27%</td>
<td>63%</td>
<td>10%</td>
</tr>
<tr>
<td>Linguistic appropriacy</td>
<td>43%</td>
<td>57%</td>
<td>0%</td>
</tr>
</tbody>
</table>
To measure the fluency of the written texts, I tallied the number of words in each composition. The total number of words in the TOEFL independent essay writing has been demonstrated to correlate with L2 proficiency generally (Grant & Ginther, 2000). To be able to examine the significance of statistical differences between the text qualities measured by the scores and number of words in the collaborative and independent writing conditions, I conducted Wilcoxon signed-ranks tests, and calculated the effect sizes. I ran a Kolmogorov-Smirnov test to determine if the individual and collaborative scores were distributed normally. The individual scores, $D (20) = .4, p < .001$, and the collaborative scores, $D (20) = .4, p < .001$, were both significantly non-normal. Therefore, I chose to use non-parametric analyses.

4.5.3. Analysis of the interview data

I transcribed all the stimulated recall and post-task interviews verbatim in the original language used (Japanese). I analysed them in Japanese, and only translated the parts that appear in the thesis into English. As discussed in the data collection procedure section, I used stimulated recalls to better understand how students scaffold themselves or their peer when they encountered problems while writing. Therefore, while analyzing scaffolding episodes, I have referred to the stimulated recall comments against each scaffolding episode (p.57).

As for the post-task interview, I analyzed the interview transcripts using an inductive approach (Strauss & Corbin, 1998). That is, I categorized common themes and patterns emerging from the interview transcripts within individual data and across the various participants’ data for initial classifications (Patton, 1990). I began my analysis by extensively reading and rereading the transcripts to extract common themes and patterns as to the nature of the comments. I prepared the initial list of the main categories based on the core interview questions; however, whenever the data did not fit the pre-determined categories, I expanded and revised the categories rather than forcing coding choices to conform to them. Once I developed the coding system, I coded all the transcripts using the coding categories.
Chapter 5

Research question 1: Writing processes

In this chapter, I report the results of my study by answering the first research question outlined in Chapter One: What verbalization processes occur when university English learners write in pairs and independently?

5.1. Language-related episodes (LREs)

In the first research question, I explored what verbalization processes can be observed when the same university English learner writes in pairs and independently. I analysed the transcribed verbalization (10 pair dialogues during collaborative writing and 20 speech for self utterances during independent writing) in terms of language-related episodes, text-related episodes, and scaffolding episodes.

5.1.1. Frequency of LREs

Table 5.1 below summarizes the frequency of LREs produced during the 30-minute collaborative and independent writing tasks. Overall, pairs produced a total of 219 LREs during collaborative writing, while individuals generated a total of 250 LREs during independent writing. Wilcoxon signed-ranks tests demonstrated that the median number of LREs produced by pairs (considered as a single unit) was significantly higher (Mdn = 20.5) than when writing independently (Mdn = 12.5), z = -3.55, p < .001, r = .79. It is important to note that the verbalization data presented here involved only vocalized LREs. Specifically, inaudible or sub-vocalized LREs that the students might have produced, particularly during independent writing, but also in collaborative writing, are not accounted for.
Table 5.1

Frequency of LREs in collaborative and independent writing

<table>
<thead>
<tr>
<th>LRE</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total episodes</td>
<td>219</td>
<td>250</td>
</tr>
<tr>
<td>M</td>
<td>21.9</td>
<td>12.5</td>
</tr>
<tr>
<td>Mdn</td>
<td>20.5</td>
<td>12.5</td>
</tr>
<tr>
<td>SD</td>
<td>6.9</td>
<td>5.1</td>
</tr>
<tr>
<td>Max</td>
<td>32 (Sho &amp; Nami)</td>
<td>23 (Nami)</td>
</tr>
<tr>
<td>Min</td>
<td>11 (Kojiro &amp; Chika)</td>
<td>2 (Ichiro)</td>
</tr>
</tbody>
</table>

In collaborative writing, Sho and Nami produced the greatest frequency of LREs (32 LREs) and Kojiro and Chika generated the fewest (11 LREs). Both pairs were mixed gendered. Moreover, these two pairs also produced the greatest number of turns per LRE (5.4 turns for Sho & Nami) and the fewest turns per LRE (2.2 turns for Kojiro & Chika) among all pairs. In other words, Sho and Nami engaged in collaborative dialogue most frequently and extensively while Kojiro and Chika discussed language problems with the least frequency and fewest number of turns, suggesting a possible relationship between the frequency of LREs and number of turns in the present data. That is, a pair talking more frequently about language may talk at greater length whereas a pair talking less frequently about language may produce fewer turns.

Table 5.2 below compares the LREs produced per pair and per individual. Three individuals who produced LREs most frequently in the independent writing condition (Nami, Sho, and Fumi) also generated the greatest frequency of LREs during the collaborative writing (32 and 30 LREs). In the independent writing task, Nami produced the greatest number of LREs (23 LREs) whereas Ichiro generated the fewest number of LREs (2 LREs),
and the same individual (Nami, who is female) produced the greatest frequency of LREs in both the collaborative and independent writing tasks.

**Table 5.2**

**Frequency of LREs per pair and per individual**

<table>
<thead>
<tr>
<th>Pair</th>
<th>LRE</th>
<th>Turns</th>
<th>Turns/LRE</th>
<th>Individual</th>
<th>LRE</th>
<th>Individual</th>
<th>LRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aya &amp; Yuka</td>
<td>28</td>
<td>120</td>
<td>4.3</td>
<td>Aya</td>
<td>13</td>
<td>Yuka</td>
<td>14</td>
</tr>
<tr>
<td>Ryo &amp; Jo</td>
<td>21</td>
<td>84</td>
<td>4.0</td>
<td>Ryo</td>
<td>13</td>
<td>Jo</td>
<td>7</td>
</tr>
<tr>
<td>Hana &amp; Lisa</td>
<td>20</td>
<td>58</td>
<td>2.9</td>
<td>Hana</td>
<td>10</td>
<td>Lisa</td>
<td>11</td>
</tr>
<tr>
<td>Ichiro &amp; Sala</td>
<td>14</td>
<td>42</td>
<td>3.2</td>
<td>Ichiro</td>
<td>2</td>
<td>Sala</td>
<td>16</td>
</tr>
<tr>
<td>Fumi &amp; Waka</td>
<td>30</td>
<td>161</td>
<td>5.4</td>
<td>Fumi</td>
<td>20</td>
<td>Waka</td>
<td>9</td>
</tr>
<tr>
<td>Hiro &amp; Ema</td>
<td>15</td>
<td>59</td>
<td>3.9</td>
<td>Hiro</td>
<td>13</td>
<td>Ema</td>
<td>14</td>
</tr>
<tr>
<td>Kana &amp; Miwa</td>
<td>28</td>
<td>110</td>
<td>3.9</td>
<td>Kana</td>
<td>12</td>
<td>Miwa</td>
<td>12</td>
</tr>
<tr>
<td>Sho &amp; Nami</td>
<td>32</td>
<td>172</td>
<td>5.4</td>
<td>Sho</td>
<td>20</td>
<td>Nami</td>
<td>23</td>
</tr>
<tr>
<td>Kojiro &amp; Chika</td>
<td>11</td>
<td>24</td>
<td>2.2</td>
<td>Kojiro</td>
<td>12</td>
<td>Chika</td>
<td>17</td>
</tr>
<tr>
<td>Go &amp; Tomo</td>
<td>20</td>
<td>78</td>
<td>3.9</td>
<td>Go</td>
<td>4</td>
<td>Tomo</td>
<td>8</td>
</tr>
</tbody>
</table>

**5.1.2. Types of LREs**

Table 5.3 below illustrates the types of LREs that the pairs and individuals generated during the collaborative and independent writing tasks. In collaborative writing, the pairs produced lexis-based LREs most frequently (53%), followed by language form (23.7%), mechanics (12.8%), and stylistics (10.5%). A similar trend was observed in independent writing, where the most frequent LRE type was lexis (70.4%), followed by language form (23.6%), mechanics (5%), and stylistics (1%). These intermediate-level university English
learners consistently focused greater attention on lexical items rather than on grammatical, mechanical, or stylistic concerns whether they wrote in pairs or alone.

Table 5.3

Frequency (raw counts and percentages) of type of LREs during collaborative and independent writing

<table>
<thead>
<tr>
<th>LRE</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Lexis</td>
<td>116 (53%)</td>
<td>176 (70.4%)</td>
</tr>
<tr>
<td>Form</td>
<td>52 (23.7%)</td>
<td>59 (23.6%)</td>
</tr>
<tr>
<td>Mechanics</td>
<td>28 (12.8%)</td>
<td>12 (5%)</td>
</tr>
<tr>
<td>Stylistic</td>
<td>23 (10.5%)</td>
<td>3 (1%)</td>
</tr>
<tr>
<td>Total</td>
<td>219 (100%)</td>
<td>250 (100%)</td>
</tr>
</tbody>
</table>

While the trends for the focus of LREs during collaborative and independent writing were comparable, the proportion of the LREs present in the two writing contexts demonstrated some distinctive patterns. First, there was a large difference in the frequency of stylistic-focused LREs. While 10.5% of the LREs produced by pairs focused on stylestics, only 1% of the individuals’ LREs were stylistics-focused. Excerpt 31 below presents how two learners attempted to work out a sentence that was not only accurate but also flowed nicely. In this exchange, Aya and Yuka tried to render a sentence about the earthquake that happened in Japan the previous year. In Line 456, Aya suggested, “last year, we Japanese,” to which Yuka seemed hesitant (Line 457). Aya then presented “last year, in Japan,” to which Yuka flipped two phrases and suggested “in Japan, last year” (Line 459). In Line 460, Aya reverted back to “last year, in Japan” and also added the following phrase “a big earthquake.” In Line 461, Yuka, while keeping Aya’s idea to start with “last year,” moved “in Japan” to the end of the
sentence, which Aya agreed with. This type of LRE that focused on style rather than lexis or form was more prevalent in collaborative dialogue than in independent speech for self.

Excerpt 31

456 Aya Ah, last year, we Japanese, Japanese mmm
457 Yuka Last year...
458 Aya Last year, in Japan
459 Yuka In Japan, last year?
460 Aya … How about last year, in Japan, a big earthquake
461 Yuka Ah, last year, a big earthquake happened in Japan.
462 Aya Yes.

Final text: Second, last year, a big earthquake happened in Japan and […]

Second, a difference in the proportion of LREs appeared in the frequency of attention to mechanics across each writing condition. Whereas pairs talked about mechanics in 12.8% of their LREs, individuals only generated 5% of these types of LREs. In fact, the collaborative writing transcripts displayed several episodes in which one student instantly asked his or her partner about proper spelling (Excerpt 32) and in another instance, one student corrected the spelling while the other was writing (Excerpt 33). It seems that when working with a partner, these students paid slightly more attention to stylistics and mechanics than they did when writing alone.

Excerpt 32

93 Jo I don’t know how to spell it. It’s like ‘mi-chi-e-lu,’ right?
94 Ryo [showing the spelling to him] This one right?
95 Jo [While writing] m-i-c, Michael. Spelling of Jackson
96 Ryo Jackson is like jack-so-n.

Excerpt 33

311 Lisa t, do you have ‘t’ [in ‘effort’]? 
312 Hana Oh [correcting]
313 Lisa Efforts. I have never seen someone like her … before?
314 Hana before [writing]
315 Lisa You missed ‘e’ [as in ‘before’].
Finally, individuals produced more episodes concerning lexis in their independent writing (70.4%) than did pairs in their collaborative writing (53%). Compared to writing in pairs, these students spent a greater amount of time searching for vocabulary when writing alone. In the case of Kana, all her 13 LREs focused on word meaning. Excerpt 34 exemplifies how Kana talked exclusively about word meaning search.

Excerpt 34

Kana  

*How do you say omoiyari (caring)?* … kindness [checking a dictionary]… *ohh I’ll just leave this one* … *nesshin (dedication)*? [checking a dictionary]  
*kinbensa* (industriousness), industry, in-, indus-, industry … [writing]  
[checking a dictionary] *saikin* (bacteria), *saiken*, bacteria …  
*saikingakusha* (bacteriologist), bacteriologist …

Although pairs produced fewer lexis-based LREs than individuals did, pairs also discussed lexis-related problems frequently. Excerpt 35 illustrates how Sho and Nami tried to use various words and phrases to be more creative. In Line 379, Sho presented a phrase to begin with, to which Nami added a phrase ‘have an influence.’ Sho suggested a more concise and eloquent word ‘impress’ in Line 380 which Nami agreed upon. Furthermore, in Line 383, Nami offered two different phrases to express what they already discussed in the previous turns. Since “there are four eyes in total” (Chika in the post-task interview), pairs seem to have a better advantage in monitoring the quality of word choice.

Excerpt 35

<table>
<thead>
<tr>
<th>Line</th>
<th>Sho</th>
<th>Nami</th>
<th>Sho</th>
<th>Nami</th>
<th>Sho</th>
</tr>
</thead>
<tbody>
<tr>
<td>378</td>
<td>They stimulated and …</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>379</td>
<td>Have an influence?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>380</td>
<td><em>How about</em> impress?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>381</td>
<td><em>Yeah.</em> [while writing] impress many people in Japan.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>382</td>
<td>So we wanted</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>383</td>
<td>So we want to … hear … what he thinks? What he has in his mind?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>384</td>
<td>Mmm … thinks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Final text: They stimulate and impress many people. So we want to hear what he thinks.
In addition, when lexical searches took place during collaborative writing, they tended to take the form of private speech rather than collaborative dialogue, illustrating how both social and private speech in a dialogic context functions simultaneously (Wells, 1999). Excerpt 36 demonstrates how private speech was used to search for word meanings during pair writing. In this episode, Ichiro and Sala attempted to express the sentence, “We would like to be taught how to dance the moonwalk individually.” Ichiro first presented Sala, the writer, with the sentence ‘we’d like to be taught how to dance moon walk.’ Sala, while accepting Ichiro’s suggestion, thought of adding the word ‘individually’ to be more specific. She questioned herself in Japanese first then sought the English equivalent for ‘individually’ (Line 183). After producing her hypothesis ‘in private,’ she checked with a dictionary and found the word ‘individually.’ While Sala was solving her self-initiated problem, Ichiro was probably thinking about the content of an upcoming sentence (Line 184).

**Excerpt 36**

<table>
<thead>
<tr>
<th>Line</th>
<th>Speaker</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>181</td>
<td>Sala</td>
<td>[while writing] like to … be taught …</td>
</tr>
<tr>
<td>182</td>
<td>Ichiro</td>
<td>How to dance, we’d like to be taught how to dance moon walk.</td>
</tr>
<tr>
<td>184</td>
<td>Ichiro</td>
<td>The third reason …</td>
</tr>
</tbody>
</table>

Final text: So, if we were to meet him, we would like to be taught how to dance moon walk individually.

**5.1.3. Outcomes of LREs**

Table 5.4 below presents how pairs and individuals resolved language-related problems. Overall, both collaborative and independent writers correctly resolved a great number of LREs while only a small number of LREs were resolved unsuccessfully. Pairs resolved about the same number of LREs (86.3%) as did individuals (83.2%). Both pairs and individuals incorrectly resolved an identical proportion of language items (collaborative =
12.8%; independent = 12.7%). While pairs left just 0.9% of language problems unresolved, individuals abandoned 4% of them.

Table 5.4

Frequency (raw counts and percentages) of outcomes of LREs in collaborative and independent writing

<table>
<thead>
<tr>
<th>LRE</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I (Correct)</td>
<td>189 (86.3%)</td>
<td>208 (83.2%)</td>
</tr>
<tr>
<td>II (Unresolved)</td>
<td>2 (0.9%)</td>
<td>10 (4.0%)</td>
</tr>
<tr>
<td>III (Incorrect)</td>
<td>28 (12.8%)</td>
<td>32 (12.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>219 (100%)</td>
<td>250 (100%)</td>
</tr>
</tbody>
</table>

Excerpt 37 illustrates how Yuka abandoned two lexical problems unresolved while writing independently. Yuka was desperately searching for an English expression for ‘I have been to her concert.’ After spending almost two minutes struggling, she gave up and decided to abandon the whole sentence. Despite mentioning ‘I have been to’ at the very beginning of the speech, and the word ‘concert’ is in fact almost identical in Japanese (pronounced as *konsaato*), she was not able to figure that out. In the stimulated recall, Yuka stated, “I was looking for a fitting verb to express ‘go to a concert,’ but I just couldn’t think of it. I got stuck for a long time and thought I should not waste any more time. So I decided to discard the whole sentence.” This episode was the longest LRE among all 250 LREs produced by independent writers. After completing the next sentence smoothly, Yuka again got stuck with how to say ‘by just looking at her.’ She again discarded the problem after struggling over it for about one minute and moved on to the next sentence.
Excerpt 37

Unresolved → I have been to, I have, I have, laibu ni iku [=go to a live performance], *how do you say ‘laibu ni iku’?* [checking a dictionary] laibu ni iku, konsaato [=concert]?, konsaato ni iku [=go to a concert]? Konsaato ni iku, konsaato, I’ve, I have, I, I have … [reading] “Second, her personality. She is from Osaka. So she is good at speaking, her stories are always interesting and funny.” I have, *I have been to, I have experienced, I have … been to? I have … I have, I ha-ve, how can I say ‘konsaato ni iku’? I have, konsaato ni iku, konsaato ni iku, konsaato ni iku … to attend? To attend? I have … Forget it… Do I need to include my experience because it’s an essay? … mmm Never mind. Let’s move on to third [paragraph]. She is very short … but she is always full of … energy … [reading] “but she is always full of energy.” Also, also, also [reading] “Also, she is very short but she is always full of energy.”


Final text: [I have been to her live performance before.] Also she is very short, but she is always full of energy. [I feel happy by just looking at her.]

Excerpt 38 below shows how Fumi and Waka, who together solved 26 LREs correctly and 6 LREs incorrectly, co-constructed the solution to linguistic problems. In this exchange, they attempted to render the form “he has autographed more than any other entertainer.” In Line 347, Waka initiated the problem in Japanese, to which Fumi proposed ‘most’ (Line 348). Waka, while rejecting Fumi’s suggestion (Line 349), presented Fumi with two options, ‘many’ or ‘more’ (Line 351). When Fumi responded favourably with ‘more’ (Line 352), Waka extended it to ‘more than’ (Line 353). After Fumi’s agreement (Line 354), Waka further extended it to ‘more than any’ (Line 355). Fumi then completed the sentence with ‘actor’ (Line 356). Waka agreed but refined it by proposing a more universal word, ‘entertainer’ (Line 357). During the stimulated recall interview, Waka noted, “Creating this sentence was a struggle. When I said it [the problem] aloud, Fumi suggested one thing. Then that pushed me to come up with something else. That’s how we constructed this sentence, like piling one piece on top of another.” In other words, what Fumi said became a resource.
for Waka, and Waka’s response in turn acted as a resource for Fumi.

**Excerpt 38**

<table>
<thead>
<tr>
<th>Correctly resolved</th>
<th>Incorrectly resolved</th>
<th>Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>347 Waka</td>
<td>mmm ‘ooi’ [many] is like ...</td>
<td></td>
</tr>
<tr>
<td>348 Fumi</td>
<td>Can we say ‘most’?</td>
<td></td>
</tr>
<tr>
<td>349 Waka</td>
<td>But it’s ‘many.’</td>
<td></td>
</tr>
<tr>
<td>350 Fumi</td>
<td>Yeah.</td>
<td></td>
</tr>
<tr>
<td>351 Waka</td>
<td>‘Many’ or ‘more’?</td>
<td></td>
</tr>
<tr>
<td>352 Fumi</td>
<td>If it’s ‘more’ …</td>
<td></td>
</tr>
<tr>
<td>353 Waka</td>
<td>More than</td>
<td></td>
</tr>
<tr>
<td>354 Fumi</td>
<td>More than sounds good.</td>
<td></td>
</tr>
<tr>
<td>355 Waka</td>
<td>Ah! More than any other!</td>
<td></td>
</tr>
<tr>
<td>356 Fumi</td>
<td>Any other actor</td>
<td></td>
</tr>
<tr>
<td>357 Waka</td>
<td>Actor or entertainers</td>
<td></td>
</tr>
<tr>
<td>358 Fumi</td>
<td>Ahh, this is a singular, right? Any other</td>
<td></td>
</tr>
<tr>
<td>360 Fumi</td>
<td>Wasn’t any other a singular? No?</td>
<td></td>
</tr>
<tr>
<td>361 Waka</td>
<td>Really? Doesn’t this mean compare to any other individuals?</td>
<td></td>
</tr>
<tr>
<td>362 Fumi</td>
<td>So we need ‘s’? I thought it’s singular … or not?</td>
<td></td>
</tr>
<tr>
<td>363 Waka</td>
<td>Okay then, let’s finish the rest first.</td>
<td></td>
</tr>
</tbody>
</table>

[19 turns for discussing the conclusion]

<table>
<thead>
<tr>
<th>Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>382 Waka</td>
</tr>
<tr>
<td>383 Fumi</td>
</tr>
<tr>
<td>384 Waka</td>
</tr>
<tr>
<td>385 Fumi</td>
</tr>
<tr>
<td>386 Waka</td>
</tr>
<tr>
<td>387 Fumi</td>
</tr>
<tr>
<td>388 Waka</td>
</tr>
<tr>
<td>389 Fumi</td>
</tr>
</tbody>
</table>

[11 turns later]

<table>
<thead>
<tr>
<th>Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>401 Waka</td>
</tr>
<tr>
<td>402 Fumi</td>
</tr>
<tr>
<td>403 Waka</td>
</tr>
<tr>
<td>404 Fumi</td>
</tr>
<tr>
<td>405 Waka</td>
</tr>
<tr>
<td>406 Fumi</td>
</tr>
</tbody>
</table>

Final text: The number of his autograph is served more than any other entertainers.

After correctly resolving the LRE, Fumi questioned Waka’s use of pluralisation for the noun, ‘entertainer’ (Line 358). This turned into the longest LRE episode among the 218 LREs for all pairs’ collaborative dialogues. During her stimulated recall, Waka referred to this
problem as “the problem we struggled with most.” While Fumi remembered learning to use the singular (Line 387), Waka thought her professor corrected her when she used the singular (Line 401). Unfortunately, they were unable to find an answer from a dictionary. As their writing time was over, they quickly decided to employ Waka’s idea because she was more convinced that she was correct (Lines 401-404). It is remarkable that although Fumi, who suggested the correct solution, was quite confident with her idea at the beginning (Line 358), she started to doubt herself (Lines 362, 385 and 389) and eventually discarded her idea. One may see that this episode demonstrates the downside of collaborative dialogue. Nevertheless, Fumi stated in her post-task interview that negotiating one another’s idea is an important process of learning. Waka also noted in her post-task interview that collaborative writing pushed her to persevere in solving problems as it was a collective responsibility, whereas when writing independently, she usually gave up easily.

5.2. Text-related episodes (TREs)

Tables 5.5 and 5.6 below present how frequently students talked about the organization, content (evaluation of the content, excluding generation of ideas), and format of their texts while they composed. Table 5.5 compares the TREs produced per pair and per individual. Pairs produced a total of 37 TREs during collaborative writing, whereas individuals generated a total of 35 TREs during independent writing. Wilcoxon signed-rank test demonstrated that the median number of TREs produced by pairs (considered as a single unit) was significantly higher ($Mdn = 3.0$) than when writing independently ($Mdn = 2.0$), $z = -3.01$, $p < .01$, $r = .67$. 


Table 5.5

*Frequency of TREs in collaborative and independent writing*

<table>
<thead>
<tr>
<th>TRE</th>
<th>Collaborative ((n = 10))</th>
<th>Independent ((n = 20))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total episodes</td>
<td>37</td>
<td>35</td>
</tr>
<tr>
<td>(M)</td>
<td>3.7</td>
<td>1.8</td>
</tr>
<tr>
<td>(Med)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>(SD)</td>
<td>1.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Max</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Min</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5.6

*Frequency of TREs per pair and per individual*

<table>
<thead>
<tr>
<th>Pair</th>
<th>TRE</th>
<th>Collaborative ((n = 10))</th>
<th>Independent ((n = 20))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aya &amp; Yuka</td>
<td>2</td>
<td>Aya</td>
<td>Yuka</td>
</tr>
<tr>
<td>Ryo &amp; Jo</td>
<td>2</td>
<td>Ryo</td>
<td>Jo</td>
</tr>
<tr>
<td>Hana &amp; Lisa</td>
<td>6</td>
<td>Hana</td>
<td>Lisa</td>
</tr>
<tr>
<td>Ichiro &amp; Sala</td>
<td>3</td>
<td>Ichiro</td>
<td>Sala</td>
</tr>
<tr>
<td>Fumi &amp; Waka</td>
<td>8</td>
<td>Fumi</td>
<td>Waka</td>
</tr>
<tr>
<td>Hiro &amp; Ema</td>
<td>3</td>
<td>Hiro</td>
<td>Ema</td>
</tr>
<tr>
<td>Kana &amp; Miwa</td>
<td>4</td>
<td>Kana</td>
<td>Miwa</td>
</tr>
<tr>
<td>Sho &amp; Nami</td>
<td>3</td>
<td>Sho</td>
<td>Nami</td>
</tr>
<tr>
<td>Kojiro &amp; Chika</td>
<td>4</td>
<td>Kojiro</td>
<td>Chika</td>
</tr>
<tr>
<td>Go &amp; Tomo</td>
<td>2</td>
<td>Go</td>
<td>Tomo</td>
</tr>
</tbody>
</table>


Table 5.7 illustrates the focus of TREs that the pairs and individuals generated during collaborative and independent tasks. Similar trends for the focus of TREs appeared in both writing contexts. Specifically, both pairs and individuals generated organization-related episodes most frequently (collaborative = 54%; independent = 51%), followed by content (collaborative = 35%; independent = 34%) and format (collaborative = 11%; independent = 14%). These university English learners newly introduced to academic essay writing attended more to the organization of their essays rather than their content and format whether writing in pairs or alone.

Table 5.7

Frequency (raw counts and percentages) of types of TREs during collaborative and independent writing

<table>
<thead>
<tr>
<th>TRE</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization (%)</td>
<td>20 (54.1%)</td>
<td>18 (51.4%)</td>
</tr>
<tr>
<td>Content (%)</td>
<td>13 (35.1%)</td>
<td>12 (34.3%)</td>
</tr>
<tr>
<td>Format (%)</td>
<td>4 (10.8%)</td>
<td>5 (14.3%)</td>
</tr>
<tr>
<td>Total (%)</td>
<td>37 (100%)</td>
<td>35 (100%)</td>
</tr>
</tbody>
</table>

5.3. Scaffolding episodes (SEs)

Among the eleven categories identified as SEs, repetition was by far the most frequently used verbal scaffolding by both collaborative (40.1%) and independent writers (35.9%). Furthermore, the frequency of co-occurrence of repetition with other scaffolding functions was exceptionally higher than that of other categories. In other words, repetition was almost always co-used with other scaffolding features. In order to highlight the variation
in the other categories, I separated *repetition* from the analysis of the other ten scaffolding features. I first present the findings of the ten SEs, followed by reporting the uses of *repetition*.

**Table 5.8**

*Frequency of SEs in collaborative and independent writing*

<table>
<thead>
<tr>
<th>SE</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total episodes</td>
<td>361</td>
<td>384</td>
</tr>
<tr>
<td><em>M</em></td>
<td>36.1</td>
<td>19.2</td>
</tr>
<tr>
<td><em>Med</em></td>
<td>37</td>
<td>18</td>
</tr>
<tr>
<td><em>SD</em></td>
<td>5.9</td>
<td>9.1</td>
</tr>
<tr>
<td>Max</td>
<td>42</td>
<td>38</td>
</tr>
<tr>
<td>Min</td>
<td>26</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 5.9**

*Frequency of SEs per pair and per individual*

<table>
<thead>
<tr>
<th>Pair</th>
<th>SE</th>
<th>Collaborative (n = 10)</th>
<th>Individual</th>
<th>SE</th>
<th>Independent (n = 20)</th>
<th>Individual</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aya &amp; Yuka</td>
<td>42</td>
<td></td>
<td>Aya</td>
<td>17</td>
<td></td>
<td>Yuka</td>
<td>27</td>
</tr>
<tr>
<td>Ryo &amp; Jo</td>
<td>39</td>
<td></td>
<td>Ryo</td>
<td>21</td>
<td></td>
<td>Jo</td>
<td>14</td>
</tr>
<tr>
<td>Hana &amp; Lisa</td>
<td>32</td>
<td></td>
<td>Hana</td>
<td>10</td>
<td></td>
<td>Lisa</td>
<td>39</td>
</tr>
<tr>
<td>Ichiro &amp; Sala</td>
<td>29</td>
<td></td>
<td>Ichiro</td>
<td>10</td>
<td></td>
<td>Sala</td>
<td>17</td>
</tr>
<tr>
<td>Fumi &amp; Waka</td>
<td>47</td>
<td></td>
<td>Fumi</td>
<td>38</td>
<td></td>
<td>Waka</td>
<td>20</td>
</tr>
<tr>
<td>Hiro &amp; Ema</td>
<td>37</td>
<td></td>
<td>Hiro</td>
<td>19</td>
<td></td>
<td>Ema</td>
<td>24</td>
</tr>
<tr>
<td>Kana &amp; Miwa</td>
<td>39</td>
<td></td>
<td>Kana</td>
<td>23</td>
<td></td>
<td>Miwa</td>
<td>29</td>
</tr>
<tr>
<td>Sho &amp; Nami</td>
<td>33</td>
<td></td>
<td>Sho</td>
<td>25</td>
<td></td>
<td>Nami</td>
<td>16</td>
</tr>
<tr>
<td>Kojiro &amp; Chika</td>
<td>26</td>
<td></td>
<td>Kojiro</td>
<td>10</td>
<td></td>
<td>Chika</td>
<td>10</td>
</tr>
<tr>
<td>Go &amp; Tomo</td>
<td>37</td>
<td></td>
<td>Go</td>
<td>5</td>
<td></td>
<td>Tomo</td>
<td>10</td>
</tr>
</tbody>
</table>
Tables 5.8 and 5.9 above illustrate the frequency of SEs used during collaborative and independent writing tasks. Table 5.8 compares the SEs produced per pair and per individual. Overall, pairs produced a total of 361 episodes during collaborative writing, while individuals generated a total of 384 episodes. Wilcoxon signed-rank test indicated that the median number of SEs produced by pairs (considered as a unit of one) was significantly ($Mdn = 37.0$) than when writing independently ($Mdn = 18.0$), $z = -3.89$, $p < .001$, $r = .87$.

Table 5.10

<table>
<thead>
<tr>
<th>Scaffolding features</th>
<th>Collaborative ($n=10$)</th>
<th>Independent ($n=20$)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translating</td>
<td>62 (17.2%)</td>
<td>166 (43.2%)</td>
<td>228 (30.6%)</td>
</tr>
<tr>
<td>Questioning</td>
<td>55 (15.2%)</td>
<td>88 (22.9%)</td>
<td>143 (19.2%)</td>
</tr>
<tr>
<td>Suggesting</td>
<td>88 (24.4%)</td>
<td>18 (4.7%)</td>
<td>106 (14.2%)</td>
</tr>
<tr>
<td>Assessing</td>
<td>58 (16.7%)</td>
<td>34 (8.9%)</td>
<td>92 (12.3%)</td>
</tr>
<tr>
<td>Reading</td>
<td>8 (2.2%)</td>
<td>49 (12.8%)</td>
<td>57 (7.7%)</td>
</tr>
<tr>
<td>Justifying</td>
<td>25 (6.9%)</td>
<td>15 (3.9%)</td>
<td>40 (5.4%)</td>
</tr>
<tr>
<td>Affective support</td>
<td>10 (2.8%)</td>
<td>14 (3.6%)</td>
<td>24 (3.2%)</td>
</tr>
<tr>
<td>Eliciting</td>
<td>21 (5.8%)</td>
<td>0</td>
<td>21 (2.8%)</td>
</tr>
<tr>
<td>Restating</td>
<td>19 (5.3%)</td>
<td>0</td>
<td>19 (2.6%)</td>
</tr>
<tr>
<td>Instructing</td>
<td>15 (4.2%)</td>
<td>0</td>
<td>15 (2.0%)</td>
</tr>
<tr>
<td><strong>Total number (%)</strong></td>
<td><strong>361 (100%)</strong></td>
<td><strong>384 (100%)</strong></td>
<td><strong>745 (100%)</strong></td>
</tr>
</tbody>
</table>

Table 5.10 shows the use of scaffolding features under collaborative and independent writing. The SEs during the collaborative and independent writing tasks demonstrated three distinct trends. First, while pairs employed a variety of scaffolding strategies in relatively
similar proportions, individuals used a limited number of scaffolding strategies. Three strategies – translating (43.2%), questioning (22.9%) and reading (12.8%) – dominated the scaffolding episodes during independent writing. During collaborative writing, even the most frequent SE, suggesting, appeared only 24.4% of the time, followed by translating (17.2%), assessing (16.7%) and questioning (15.2%).

Second, related to the first trend, some SEs, specifically eliciting (5.8%), restating (5.3%) and instructing (4.2%), were observed only in collaborative writing contexts. Although it may be feasible to elicit, restate, and instruct oneself while writing, these scaffolding features did not appear when the students were writing alone.

Third, the ways in which the SEs appeared in the two different writing contexts were qualitatively different. In particular, translating, suggesting, reading, and assessing manifested themselves in different ways between collaborative and independent writing. Students in pairs tend to construct their own meanings together rather than depending on translation to support their writing. Similarly, reading appeared to be an important scaffolding strategy for individuals (12.8%); however, pairs seldom used this scaffolding method (2.2%). On the other hand, while pairs often scaffolded each other through suggesting (24.4%) and assessing (16.7%), individuals seldom used these scaffolding strategies (4.7% for suggesting and 8.9% for assessing). Given that having a pair partner may invite opportunities for suggesting and assessing by providing feedback, these results may have been expected.

Below I examine each scaffolding category.

5.3.1. Repetition

Table 5.7 below shows the frequency of self- and other-repetition produced by collaborative and independent writers. I identified a total of 234 repetitions in the speech for self transcripts, indicating that 36% of the verbal SEs while writing independently were self-repetition. In the pair dialogue transcripts, I identified a total of 242 repetitions (40.1%)
including both self-repetition (29.3%) and other-repetition (70.7%). While it is to be expected that students use other-repetition more frequently than self-repetition while writing in pairs, what was unforeseen was the high frequency of self-repetition during pair work. Seemingly, both self- and other-repetition are frequently used tools to mediate L2 writing.

**Table 5.11**

*Frequency (raw counts and percentages) of repetition in collaborative and independent writing*

<table>
<thead>
<tr>
<th>Repetition</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-repetition</td>
<td>71 (29.3%)</td>
<td>234 (100%)</td>
<td>305</td>
</tr>
<tr>
<td>Other-repetition</td>
<td>171 (70.7%)</td>
<td>0 (0%)</td>
<td>171</td>
</tr>
<tr>
<td>Total</td>
<td>242 (100%)</td>
<td>234 (100%)</td>
<td>476</td>
</tr>
</tbody>
</table>

Excerpt 39 illustrates how repetition was strategically used by Chika, who produced repetition most frequently (35 times) among the individual writers. In this episode, Chika repeated the word ‘tragedy,’ partially and entirely several times. Chika seemed to repeat the word ‘tragedy’ to test her hypothesis as to whether the spelling is ‘tragedy’ or ‘tragety.’ In her stimulated recall, Chika stated, “I’m not good at vocabulary and terrible with spelling … For example, with this one ‘tragedy,’ I had heard of it but was not familiar with it. So I said it aloud to see if it sounded right […] I usually repeat a new word or difficult word so that I can remember it.”

**Excerpt 39**

Chika I can feel the tragety, tragedy, tra-ge-dy, trage- … tragedy, tragedy, tragedy … mm [while writing] I can feel the tragedy.
Excerpt 40 exemplifies how both self- and other-repetition took on a variety of functions to mediate two peers’ collaborative writing. In this exchange, Sho and Nami attempted to construct the sentence, ‘for example, he accomplished making 200 hits in the season.’ In Line 273, Nami repeated Sho’s initial proposal, ‘for example’, and then presented two options to follow. Her repetition of ‘for example’ seemed to function to maintain the pairs’ shared perspective on the task (DiCamilla & Antón, 1997) and to build rapport between the two writers (Tannen, 1989). In responding to Sho’s suggestion ‘made’ in Line 274, Nami repeated the word ‘made,’ perhaps to mitigate her rejection of his proposal (Line 275). From Lines 275 to 279, repetition of the word ‘accomplish’ contributed to mediate their collective construction of the correct expression. In Line 276, Sho appropriated the new word ‘accomplish’ that Nami presented. In response to Sho’s repetition, Nami repeated the word but this time to herself. This is apparently a self-repetition, which Nami possibly used to give herself time to focus on the meaning (Roebuck & Wagner, 2004). In Line 278 Sho added ‘he’ to the word ‘accomplished.’ It seems like Sho tested out their hypothesis ‘accomplish’ to see if it fit within the context. Nami expressed her agreement by repeating Sho’s offer. In these ways, repetition, which was pervasive in both collaborative dialogue and speech for self, appeared to play a significant role in contributing to the construction of scaffolded assistance.

**Excerpt 40**

<table>
<thead>
<tr>
<th>Line</th>
<th>Speaker</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>272</td>
<td>Sho</td>
<td>For example</td>
</tr>
<tr>
<td>273</td>
<td>Nami</td>
<td>For example … he … hit? He … have?</td>
</tr>
<tr>
<td>274</td>
<td>Sho</td>
<td>He made?</td>
</tr>
<tr>
<td>276</td>
<td>Sho</td>
<td>Oh, does accomplish mean …</td>
</tr>
<tr>
<td>277</td>
<td>Nami</td>
<td>accomplish, accomplish … accomplish, nashitogeru [accomplish], accomplish</td>
</tr>
<tr>
<td>278</td>
<td>Sho</td>
<td>He accomplished</td>
</tr>
<tr>
<td>279</td>
<td>Nami</td>
<td>He accomplished, yeah [writing]</td>
</tr>
</tbody>
</table>
5.3.2. Translating

Both pairs and individuals relied on translation from their L1, Japanese, to scaffold their writing processes. Individuals used translation more frequently (43.2%) than pairs did (17.2%). Given the students’ level of proficiency (intermediate), and that most of them were novices to academic English writing, it is explicable that both pairs (6.2 times on average) and individuals (8.3 times on average) used translation from their L1 within 30 minutes of composing time.

Table 5.12

<table>
<thead>
<tr>
<th>Translation</th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>With dictionary</td>
<td>37 (59.7%)</td>
<td>76 (45.8%)</td>
<td>113</td>
</tr>
<tr>
<td>Without dictionary</td>
<td>25 (40.3%)</td>
<td>90 (54.2%)</td>
<td>115</td>
</tr>
<tr>
<td>Total</td>
<td>62 (100%)</td>
<td>166 (100%)</td>
<td>228</td>
</tr>
</tbody>
</table>

In addition, students translated with or without using a dictionary in both writing conditions, as shown in Table 5.8. Pairs employed a dictionary for translating proportionally more (59.7%) than individuals (45.8%) did. Perhaps these students felt more responsible working with peers than working alone to use a dictionary to ensure the accuracy of words used. Indeed, two students (Miwa, Nami) mentioned in their post-task interviews that unlike writing independently in which they tended to ignore small details, they felt more obliged to be more thorough in their decisions when working in pairs.

Excerpt 41 below illustrates how Miwa pushed herself to ensure the accuracy of her expression during the collaborative writing. In this exchange, Kana and Miwa were attempting to express the concept, ‘internationally famous.’ In Line 288, Kana initiated the question, to which Miwa offered a solution (Line 289). Although Kana showed uncertainty
over Miwa’s suggestion (Line 290), Miwa put it forward. Because Kana hesitated to accept Miwa’s suggestion (Line 292), Miwa checked the word in a dictionary and found a good example sentence (Line 293). In her stimulated recall, Miwa stated, “When I write by myself, I translate words by how it feels. For example, I don’t think I would check a word like ‘world class’ if I was writing by myself. So writing in pairs pushed me to write more accurately and to take the task more seriously.”

**Excerpt 41**

<table>
<thead>
<tr>
<th>Line</th>
<th>Character</th>
<th>Dialogue</th>
</tr>
</thead>
<tbody>
<tr>
<td>288</td>
<td>Kana</td>
<td>Should we say something like ‘internationally famous’?</td>
</tr>
<tr>
<td>289</td>
<td>Miwa</td>
<td>world-wide?</td>
</tr>
<tr>
<td>290</td>
<td>Kana</td>
<td>Is that right?</td>
</tr>
<tr>
<td>291</td>
<td>Miwa</td>
<td>Yes, I think so.</td>
</tr>
<tr>
<td>292</td>
<td>Kana</td>
<td>world-wide, he is a … mmm.</td>
</tr>
<tr>
<td>293</td>
<td>Miwa</td>
<td>[checking a dictionary] Okay, okay, I found a good example sentence.</td>
</tr>
<tr>
<td>294</td>
<td>Kana</td>
<td>World class? World class</td>
</tr>
<tr>
<td>295</td>
<td>Miwa</td>
<td>World class figure skater … s</td>
</tr>
</tbody>
</table>

Final text: And he is one of the world-class figure skaters.

Among the 20 students writing independently, Fumi used translation most frequently (in 21 episodes) and Ichiro least (in one episode). Among the 10 pairs, Kojiro and Chika translated most frequently (in 11 episodes) and Ichiro and Sala the least (in 2 episodes). Large individual differences may be attributed to the writing topic they chose to write about or their level of L2 proficiency. For example, while Kojiro and Chika chose to write about Einstein and needed to deal with words such as ‘principle of relativity’ or ‘a light quantum,’ Ichiro and Sala’s topic was on Michael Jackson, which did not demand esoteric terminology. Moreover, although the institutional TOEFL scores for Fumi (500) and Ichiro (490) were similar; their English learning histories were quite different. Fumi had never studied English outside of Japan and noted at the stimulated recall, “I formulated my ideas in Japanese first and then translated them into English, especially to support sentences where I needed to explain in detail.” In contrast, Ichiro, who spent his primary years in an international school stated, “I
don’t know much about grammar as I didn’t learn it at school. When I encounter language problems, I write it and then read it to see whether it feels right to me or not.”

Excerpt 42 displays how Fumi used translation to scaffold her writing. In this episode, Fumi first stated the sentence she wanted to compose in Japanese. Then she started translating the initial part (in the Japanese sentence structure), ‘even today’ by exploring the gamut of English equivalents without using a dictionary. After arriving at the word ‘today,’ Fumi moved on to decide the correct expressions for the word ‘considered.’ Parallel to ‘today,’ she first mentioned the word in question in Japanese, then formulated her hypothesis, ‘considerate.’ Following this, Fumi checked her hypothesis with a dictionary; however, rather than blindly accepting the definition provided in the dictionary, she doubted it (“I don’t know, can I use this?”) and checked the synonym ‘regard.’ Fumi used a dictionary not only to search the meaning of the word, but also to consult example sentences to see whether the collocation of the word ‘regard’ fit what she had in mind. Consequently she adopted the verb, ‘consider.’

Excerpt 42

Fumi […] He is a pioneer who appealed for the equality of human beings that is still questioned today. How can I write? Even today ... even today ... even currently ... currently ... Can I use ‘contemporary’? Today, today ... ah today! Today [while writing] today, this world ... in this world [...] Considerate. Is it ‘considerate’? [checking a dictionary] considerate ... considerate ... considerate ... considerate ... he is considered, considered ... I don’t know, can I use this? ’Regard’ might be better? An example sentence for ‘regard’ is [checking a dictionary] regard ... consider ... he was a pioneer who ... consider ... about ... about the right of equality.

5.3.3. Questioning and Suggesting

Among individual writers, questioning was the third most frequently used scaffolding strategy, following repetition and translating. Unexpectedly, independent writers used self-questioning (22.9%) more frequently than did pair writers asking questions of one another (15.2%). Excerpt 43 demonstrates how Ryo, who produced the highest frequency of self-
questioning during independent writing (13 episodes), scaffolded his writing by asking questions to himself. It seems Ryo asked himself a question when he was faced with alternatives – for instance, the choice of a plural or singular form or word choices, such as ‘see’ or ‘meet.’ In his stimulated recall, Ryo stated, “[When I encounter language problems], I usually ask that question to myself. [Why?] Mmm … I feel like I can draw solutions that way rather than just thinking in my head.”

**Excerpt 43**

Ryo  *Should I use the plural for ‘someone’? Plural or singular? [writing <42>] mmm which is better, ‘see’ or ‘meet’? … meet [writing] Do I need ‘that’? Can I say ‘he is’ here? Can I? [writing] Can I say ‘mostly’ or ‘most’ here? … most admire [writing]*

Final text: If I could meet someone who is famous, I would want to meet with Ian Pais, who is a rock drummer. There are two reasons why I think so. One reason is that he is a drummer I most admire.

Compared to individuals, pairs used scaffolding strategies of *suggestions* (24.4%) and *assessments* (16.7%) more frequently than *questioning* their partner to scaffold their writing. When two learners with similar L2 levels co-construct a text, ‘suggesting-and-assessing’ seems to be a more pervasive and conceivably more conducive interactional approach than ‘questioning-and-answering.’ Excerpt 44 shows how Nami and Sho, who produced the highest frequency of LREs, made suggestions and evaluated each other’s proposals to improve the quality of their pair essay.

**Excerpt 44**

349 Nami  *How about ‘he expressed his idea or feeling with maxim’?*
350 Sho  *How about ‘as a maxim’?*
351 Nami  *Yeah, ‘as a maxim’ is good. [while writing] He expressed his feeling and idea. Ah spelling is … feelings, feelings.
352 Sho  *Yes, right.*
353 Nami  *‘Ideas as a maxim,’ okay. *How about ‘we can see it in a book or TV’? Shall we connect it with ‘which’?*
354 Sho  *Which*
355 Nami  *Which, which are written on, on book, magazine* or *something like that?*
Sho: How about ‘inserted’?
Nami: Oh, yes. [writing]

Final text: He expressed his feelings and ideas as maxims which are inserted in the magazines and books.

In this exchange, they attempted to render the form of the phrase, “he expressed his feelings and ideas as maxims which are inserted in the magazines and books.” In Line 349, Nami first presented her idea. In Line 350, Sho, while accepting Nami’s offer to some degree, modified the preposition use. In Line 351, Nami gave positive feedback to Sho’s suggestion and wrote it down. In Line 353, Nami presented her idea for the second part of the sentence in Japanese, then questioned whether using ‘which’ was appropriate, to which Sho agreed by repeating it (Line 354). In Line 355, Nami repeated her presentation in English this time, to which Sho suggested a different verb ‘inserted’ rather than ‘written on’ that Nami had proposed. Nami gave him positive feedback to show her agreement and wrote the phrase down.

5.3.4. Assessing

Assessing was the fourth most frequently used scaffolding strategy during collaborative writing (16.7%). In contrast to collaborative writing, assessments during independent writing occurred half (8.9%) as frequently in independent writing. The data showed that these students were capable of assessing not only language-level but also text-level issues such as the development of a thesis statement.

Excerpt 45 presents how Ryo’s assessment and feedback improved Jo’s original proposed text. In this exchange, the two students attempted to develop a thesis statement, stating the reason why they wanted to meet the famous entertainer of their choice. In Line 133, in response to Jo’s observation that developing the thesis should not be difficult, Ryo asked what Jo thought the subject of the sentence should be. In Line 134, Jo instantly answered ‘he,’ to which Ryo repeated the phrase, perhaps to express his uncertainty. In Line 136, Jo assured
him of the appropriateness of his proposal ‘he’ and presented the entire sentence. In Line 137, Ryo evaluated Jo’s suggestion by pointing out that the sentence did not state the reason why they desired to meet the entertainer. In Lines 138 and 139, Jo realized that Ryo had overlooked some important accounts and added ‘first reason is’ and ‘we want’ to the sentence. In Lines 141–144, both Ryo and Jo worked together to complete the thesis sentence.

Excerpt 45

132 Jo I think we just state a reason, so we can just write it.
133 Ryo Subject, what do you think we should use the subject of the sentence?
134 Jo He
135 Ryo He?
136 Jo He, yes. Why did he want, why did he want to become a White.
137 Ryo But we are supposed to state the reason why we want to meet him. This sentence is not.
138 Jo Oh! I see … Like ‘First reason [we want to meet him] is’
139 Ryo Yeah.
140 Jo We wanted to know. So, how about ‘we want that bla bla’?
141 Ryo How about ‘we want to ask something’? We want to ask.
142 Jo First reason, mmm, first, our first reason, reason, mmm our first reason is …?
143 Ryo is to ask
144 Jo him why bla, bla, bla?

Final text: Our first reason is to ask him why he wanted to become white.

Although assessing was used less frequently in independent writing than in pairs, individual students did use self-assessment to mediate their writing. Excerpt 46 shows how Miwa assessed the quality of the text that she was composing. In this episode, Miwa was formulating the hook for her introductory paragraph. She first thought of ‘do you know Michael;’ however, she quickly discarded it based on her self-assessment that the phrase was too commonplace, and the hook needed to be more creative. Following this, she conceived a new idea, about which she first hesitated, then she thought about it and decided that it would work.
Excerpt 46

Miwa  *What should I do ... hook, hook, ‘Do you know Michael?’ No it’s too common … ah, ‘What is the word ‘pop star’ remind you of?’ No ... Yeah, maybe it works? [writing]*

Final text: What is the word “pop star” remind you of?

Although Miwa was able to assess her ideas and to improve her text, learners do not always assess their own work accurately. Excerpt 47 represents one such occasion. In this episode, Hiro was working on a supportive paragraph. After writing a topic sentence “he was so creative,” he added a specific example to support the sentence. However, he self-assessed that the example was too specific and decided to discard it. Consequently, the first paragraph Hiro composed for his final draft overlooked a detailed example to prove why that person was creative.

Excerpt 47

Hiro  *First, he was so creative. For example, he established a co-op company owing to his creativity ... I don’t think I need this example. It’s too specific.*

Final text: First, he was a creative person, so I would like to meet and learn how he thinks.

5.3.5. Reading

*Reading* was one of the scaffolding features that rendered a large difference between collaborative and independent writing. While 12.8% of the students writing independently read and reread what they had composed, only 2.2% used this strategy to scaffold their writing during their pair writing. Moreover, only three pairs out of 10 used reading while the remaining seven pairs did not read aloud. Excerpt 48 illustrates how Lisa, who read her own text most frequently (18 times), strategically used reading to facilitate her writing.

Excerpt 48

Lisa  *So if I could meet him … meet him … Oh no, I cannot connect the reason why I want to meet him … [reading] “First, Michael Jackson is very famous for his songs*
and things what he had done. Many people were shocked when we heard the news of his death. I was surprised to see the news that many people were crying and depressed by his death because I have never really thought that he could affect that much to the world. I have never seen someone like him who has a big influence in the world. So if I could meet him” … I would like to see, ah! I’d like to know? Like to find out what makes, what makes big impact … what makes big impact in the world … mmm … [reading] “If I could meet him, I’d like to see” … Ah! what is so special, I’d like to find out, ah! I’d like to find out what is so special, so special about him.

Final text: So if I could meet him, I’d like to find out what is so special about him.

In this episode, Lisa attempted to develop a concluding sentence for the first paragraph. When she got stuck, Lisa went back to the beginning of the first paragraph and read the whole paragraph that she had composed. It seems that the rereading unlocked new ideas. When she finished reading the last phrase, the phrase to be continued naturally came to her. Her exclamation ‘ah!’ after producing the phrase “I would like to see” (in the seventh line) signifies that reading allowed her to elicit the sentence that she perceived. As Lisa continued writing, she once again got stuck as to how to describe what she would ask if she were to meet Michael Jackson. She quickly went back to reading the previously composed sentence, and again was able to draw out what she wanted to write. In her post-task interview, Lisa stated, “[When writing independently], when I encounter language problems, I can consult with a dictionary or try my best to remember what I have learned. But when I have problems developing sentences, I read my draft because that is the only resource from which I can extract my ideas.” Lisa’s comment may explain why pairs seldom used reading as their scaffolding strategy. Pairs have a resource in their partner, which diminished the need for rereading.

5.3.6. Justifying

Despite the previous research suggesting justifying one’s decision to be an effective scaffolding feature (Storch, 2008), the participants in the present study employed only a
modest frequency of justification in both their collaborative (6.9%) and independent (3.9%) writing. Learners attempted to reason about their choices more frequently during collaborative writing perhaps because there were more instances in which learners felt they needed to defend their choices to their partner than when writing alone.

Excerpt 49 represents how Aya and Yuka justified each of their choices in order to convince the other that they were correct. In Line 259, Aya raised a question as to whether it would be accurate to use ‘those problems’ or ‘the problems.’ Yuka, after reading the sentence again, proposed ‘these.’ In Line 261, Aya argued that using ‘these’ is not appropriate because they had not provided any specific examples to refer to them as ‘these,’ and suggested the use of ‘it’ instead. In Line 262, Yuka attempted to defend her argument; however, Aya still seemed hesitant in Line 263. Conceivably Yuka’s reasoning in Line 262 was not convincing. Yuka then justified her option again that it would be appropriate to use ‘these’ because they had mentioned the kinds of problem in the previous sentence. Following Yuka’s explanation, Aya accepted her argument.

**Excerpt 49**

<table>
<thead>
<tr>
<th>Line</th>
<th>Speaker</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>259</td>
<td>Aya</td>
<td>How, how can we solve those, <em>it’s not</em> ‘those’… solve the problems?</td>
</tr>
<tr>
<td>260</td>
<td>Yuka</td>
<td>These? … those? <em>Wait</em> [reading] “we want to ask him how can we solve” … these, <em>isn’t it?</em></td>
</tr>
<tr>
<td>261</td>
<td>Aya</td>
<td><em>But we haven’t provided any specific examples yet, if we say these</em> examples. <em>So how about solve</em> ‘it’?</td>
</tr>
<tr>
<td>262</td>
<td>Yuka</td>
<td>solve it, solve these, <em>they are the same.</em></td>
</tr>
<tr>
<td>263</td>
<td>Aya</td>
<td>Mm. solve</td>
</tr>
<tr>
<td>264</td>
<td>Yuka</td>
<td><em>But we mentioned</em> ‘many social problems’ <em>here, so we can use</em> ‘these.’</td>
</tr>
<tr>
<td>265</td>
<td>Aya</td>
<td>… Yes, okay.</td>
</tr>
</tbody>
</table>

Final text: Because we are facing many social problems now. So we want to ask him how can we solve these problems.

While all the pairs used justification to scaffold their writing, only eight out of 20 students used this SE during their independent writing. Excerpt 50 illustrates how Aya reasoned about her language choice when writing independently. First, she attempted to quote
what the famous soccer player said using direct speech. She explained to herself the reason why she should use the present tense and justified it. After a while, she again wanted to express what the soccer player stated, this time using indirect speech. Aya provided herself with the reasoning that she needed to use the past tense as it was in the form of indirect narration.

**Excerpt 50**

Aya  *This is a direct speech, so I should use ... a present tense.*  [three LREs later]  
_This time it is an indirect speech. So, I should use a past tense this time? Yes, past tense… we could, could … Yes._

Final text: When the last Olympic games in South Africa was over, he said “I appreciate all supporters and critics as well.” [...] He said that his goal was to win the Olympic games and we could do that.

5.3.7. Affective support

The extent of affective support displayed in the present study was relatively small (3.6% in collaborative writing and 2.8% in independent writing). However, it is necessary to caution that what I had identified as scaffolding for affective support in this study were only obvious episodes. That is, affective support may be subtly expressed throughout the learners’ pair talk and speech for self and so not readily amenable to coding. Although the proportion of the SEs functioning as ‘identifiable’ affective support was small, my data showed a variety of episodes supporting learners' affective aspects during the writing tasks. The following two excerpts show how learners used verbal scaffolding to ‘encourage peers’ (Excerpt 51) and to ‘consolidate intersubjectivity’ (Excerpt 52) during their collaborative writing. In Excerpt 51, Sho and Nami finally formulated their thesis statement after 30 turns of exchanges mainly due to Sho’s persistence in seeking the perfect expression. In Line 225, Nami provided positive encouragement suggesting they accept the phrase proposed and move on, by saying ‘let’s do
it.’ In response, Sho apologized for spending too much time on this one point, to which Nami encouraged him by stating ‘we can make it.’

**Excerpt 51**

[Talking about the sentence structure of the thesis statement for 30 turns]

<table>
<thead>
<tr>
<th>Line</th>
<th>Character</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>225</td>
<td>Nami</td>
<td>Then, we can say ‘that.’ Ok, let’s do it.</td>
</tr>
<tr>
<td>226</td>
<td>Sho</td>
<td>Sorry I spent too much time on this.</td>
</tr>
<tr>
<td>227</td>
<td>Nami</td>
<td>Don’t worry. We can make it.</td>
</tr>
</tbody>
</table>

In Excerpt 52, Chika and Kojiro were developing an outline. In Line 77, Chika seemed to struggle while formulating her ideas. In Line 78, Kojiro shared how he is not good at writing, possibly to relieve Chika’s stress. In Line 81, Chika acknowledged that she too is not good at writing and they started laughing. This exchange about a shared weakness at first seemed to be merely off-task talk; however, it in fact helped the pair to consolidate a shared understanding of the situation and established a sense of rapport.

**Excerpt 52**

<table>
<thead>
<tr>
<th>Line</th>
<th>Character</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>Chika</td>
<td>Mmm … mmm … I don’t know …</td>
</tr>
<tr>
<td>78</td>
<td>Kojiro</td>
<td>You know, I don’t like writing an essay. I’m not good at it.</td>
</tr>
<tr>
<td>79</td>
<td>Chika</td>
<td>Really?</td>
</tr>
<tr>
<td>80</td>
<td>Kojiro</td>
<td>You know the Writing 1 class, my score for essay was really bad.</td>
</tr>
<tr>
<td>81</td>
<td>Chika</td>
<td>Mine too [laughing]</td>
</tr>
<tr>
<td>82</td>
<td>Kojiro</td>
<td>[laughing]</td>
</tr>
<tr>
<td>83</td>
<td>Chika</td>
<td>[laughing] What shall we do?</td>
</tr>
<tr>
<td>84</td>
<td>Kojiro</td>
<td>But we have to try. Okay, let’s start with the topic sentence.</td>
</tr>
</tbody>
</table>

While verbal scaffolding was mainly used to create collaborative pair interactions such as encouraging others and establishing intersubjectivity during collaborative writing, individual writers used scaffolding to control their own emotional behaviour. For example, Yuka talked to herself while writing alone to push herself to be decisive about the selection of the writing topic. In Excerpt 53, Yuka, after reading the prompt, repeatedly told herself to be decisive and not to hesitate about her decision choosing a famous athlete or entertainer. In her
stimulated recall, Yuka mentioned, “I thought 30 minutes [i.e., the maximum time limit for writing] is very short so I reminded myself to decide quickly and move on.”

**Excerpt 53**

Yuka  
[After reading the prompt that asks them to write about a famous athlete or entertainer] … *Be decisive, be decisive, be decisive, make a decision without hesitating … be decisive … if you hesitate your decision … if you hesitate …*

[writing]

Similarly, Miwa talked to herself to control her emotions throughout her independent writing. In Excerpt 54 below, Miwa attempted to develop a concluding sentence, stating “these are reasons why I want to meet him.” She first stated ‘because’ yet rejected it by saying ‘no, no, no’ and changed it to ‘this is why.’ However, Miwa did not feel that was right, either, and said to herself that there was something wrong with her choice and asked for help (“oh, no, please”). After trying to calm herself (“wait, wait a second”), Miwa was able to write down what she was envisioning. In her post-task interview, Miwa stated that she usually talks to herself when she is in trouble presumably to calm herself and make her feel less stressed. It seems that talking to a peer or to oneself can be a powerful tool to control one’s affective state, which may mediate learning (Imai, 2010).

**Excerpt 54**

Miwa  
Because … *Huh? No, no, no, this is why … No, no, no, no, something is wrong, there’s something wrong, oh no, please, wait, wait a second …* these are reasons why.

Final text: […] – these are reasons why I want.

**5.3.8. Eliciting, restating, and instruction**

As observed earlier, *eliciting, restating,* and *instructing* were three scaffolding strategies that only appeared during collaborative writing and not in independent writing. Although working with a partner certainly increased opportunities to use these types of
scaffolding strategies, it was surprising that no individual writers elicited, restated or instructed themselves while writing alone (as it is feasible to do so). The proportions of the use of these scaffolding strategies in collaborative writing were: eliciting (5.8%), restating (5.3%), instructing (4.2%), and most pairs used each feature at least once. Among 21 elicitation episodes, most elicitation was by the student who played a role of an ‘expert’ (Storch, 2002) in their pair interaction. Excerpts 55 and 56 describe how the ‘expert’ student in each pair (Kojiro and Lisa, respectively) attempted to elicit their peer’s (Chika and Hana, respectively) ideas.

**Excerpt 55**

126 Kojiro  *Is there anything you want to say about Einstein’s intelligence?*
127 Chika  *Ahm, like ‘he was intelligent at school but it does not mean that his intelligence was recognized everywhere.’*
128 Kojiro  *I see. Okay then [...]*

**Excerpt 56**

361 Lisa  *Do you have anything else you want to add? Do you want to say something at the beginning [of a concluding paragraph]?
362 Hana  *No, that’s okay.*

Collaborative writing seemed to push learners to restate or paraphrase their peers’ ideas and expressions. Excerpt 57 exemplifies an instance of restating during collaborative writing. In this episode, Jo was sharing with Ryo what he desired to write about. It appears that Jo himself had not organized his thoughts and was struggling to express his ideas. In Line 165, Ryo restated and summarized what Jo said, about which Jo was pleased and suggested they use the phrase Ryo had just stated.

**Excerpt 57**

164 Jo  *[…] if you were born as the yellow race, it is natural to spend their life and die as that race. I mean everybody does that... in general. What can I say? mmm... In rare cases, people might change their race but I think it’s*
common to live throughout one’s life as the same race as they were born. I want to write something like that. Do you understand?

165 Ryo So, you mean what is the reason that he was stuck on becoming White.
166 Jo Yeah. Oh, yes. We can say ‘what was the reason for sticking to the idea of becoming White.’

Finally, Excerpt 58 illustrates how learners provide instruction or a ‘mini-lesson’ (Villamil & de Guerrero, 1996) to their peer as a scaffolding strategy. In this episode, Kojiro exteriorized his knowledge of English academic writing that he had learned recently from his teacher’s feedback on his writing. Although Kojiro clearly played the role of an expert, in order to minimize an authoritative tone, he used reported speech such as “I was told …” (Line 100). In Line 101, Chika understood and completely accepted her peer’s instruction and stated what Kojiro meant by “it doesn’t work” (in Line 100) and how to solve the problem.

Excerpt 58

100 Kojiro But I was told it doesn’t work. You know, there is a topic [meant a thesis statement] and body, body, body and a conclusion at the end [of an essay]. I was told that each body has to be separated. They cannot be connected. They each have to be different but the fact is that they all followed the topic sentence [meant thesis statement], like three pieces of items skewered. It is how they write an English essay.

101 Chika Oh, I see. So this [an idea about pacifism] has to be one of the bodies.

102 Kojiro Exactly.

In summary, L2 learners in this study used a variety of verbal scaffolding strategies during both collaborative and independent writing. However, students used nearly twice as many incidences of scaffolding when writing collaboratively than independently, and the distribution of different scaffolding strategies used in the two different writing contexts was noticeably more diverse. Collaborative writing stimulated a variety of scaffolding strategies, while independent writing elicited a limited number of scaffolding strategies. Specifically,
three strategies – eliciting, restating and instructing – were observed only during collaborative writing tasks.
Chapter 6

Research question 2: Written text

The second research question addressed how the two writing contexts affect the quality of texts when the same learner wrote in pairs and alone. Table 6.1 summarizes the scores of 30 essays (10 written collaboratively and 20 independently) using the 9-band *global scale* and the *communicative profile* scale of five traits from Hamp-Lyons (1991).

Table 6.1

*Descriptive statistics for assessments of collaborative and independent writing*

<table>
<thead>
<tr>
<th></th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td><strong>Global</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.1</td>
<td>6.0</td>
</tr>
<tr>
<td><strong>CP</strong> (of the 5-traits)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Communicative quality</td>
<td>6.4</td>
<td>6.0</td>
</tr>
<tr>
<td>- Organization</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>- Argumentation</td>
<td>5.4</td>
<td>5.0</td>
</tr>
<tr>
<td>- Linguistic accuracy</td>
<td>6.3</td>
<td>6.0</td>
</tr>
<tr>
<td>- Linguistic appropriacy</td>
<td>6.2</td>
<td>6.0</td>
</tr>
</tbody>
</table>

*CP = communicative profile

Median scores for each of the traits rated ranged between 5.0 (the lowest trait – argument) and 6.0 (the highest traits – communicative quality, organization, and linguistic accuracy) under conditions of collaborative writing and, while the median ranged between 5.0(argument) and 6.0 (communicative quality, organization, linguistic accuracy, and
linguistic appropriacy) under independent writing. Indeed, all median scores were the same in both writing conditions.

Table 6.2

Global and communicative profile scores for each pair and individual student

<table>
<thead>
<tr>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair</td>
<td>Global</td>
</tr>
<tr>
<td>Aya &amp; Yuka</td>
<td>5</td>
</tr>
<tr>
<td>Ryo &amp; Jo</td>
<td>6</td>
</tr>
<tr>
<td>Hana &amp; Lisa</td>
<td>6</td>
</tr>
<tr>
<td>Ichiro &amp; Sala</td>
<td>8</td>
</tr>
<tr>
<td>Fumi &amp; Waka</td>
<td>6</td>
</tr>
<tr>
<td>Hiro &amp; Ema</td>
<td>5</td>
</tr>
<tr>
<td>Kana &amp; Miwa</td>
<td>6</td>
</tr>
<tr>
<td>Sho &amp; Nami</td>
<td>7</td>
</tr>
<tr>
<td>Kojiro &amp; Chika</td>
<td>6</td>
</tr>
<tr>
<td>Go &amp; Tomo</td>
<td>6</td>
</tr>
</tbody>
</table>

*CP = communicative profile

Table 6.2 shows the individual score differences when the students were writing in pairs and alone. Based on the 9-band scale, the global and communicative profile scores ranged between 5 and 8 for both collaborative and independent writing. Regarding the global score, only one pair and one individual received a score of 8, and one pair and two individuals obtained a score of 7, while the rest of the pairs and individuals were all given 5 or 6. Given that these students were grouped together in a single English course based on the results of the TOEFL placement test, the small score difference among the students was to be expected.
Sala who had the highest TOEFL score (575), achieved a score of 8 under both collaborative and independent writing. Nine students received a greater score on their joint writing text rather than their independent writing texts, whereas six students attained a higher score for their independently written texts and not their collaboratively written one. Five students received the same score for both texts.

In addition to rating the essays using holistic and multiple-trait scales, I tallied the number of words in each essay in order to measure the relative fluency of the texts written. Table 6.3 below presents the average number of words written in the joint and independent writing texts. On average, learners produced a longer essay when writing alone (196 words) than when writing in pairs (151 words). Wilcoxon signed-rank test demonstrated that the number of words the students wrote were significantly less in the collaborative than in the independent writing condition (Z=-3.3, p>.001, r=.5) with .5 indicating a large effect size (Cohen, 1992).

Table 6.3

Descriptive statistics for number of words written in collaborative and independent writing

<table>
<thead>
<tr>
<th></th>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Mdn</td>
</tr>
<tr>
<td>Total</td>
<td>151</td>
<td>145.5</td>
</tr>
<tr>
<td>Topic A</td>
<td>159</td>
<td>146</td>
</tr>
<tr>
<td>Topic B</td>
<td>143</td>
<td>137</td>
</tr>
</tbody>
</table>

In addition, analysis of the effects of the essay topic on text fluency revealed that the students on average wrote more words with Topic A (collaborative = 159; independent = 211.7), while they produced slightly shorter texts with Topic B (collaborative = 143; independent = 181), regardless of the different writing conditions. Some students mentioned
during the post-task interview that they found Topic B more difficult as they were not familiar with historical people nor did they wish to meet any of them.

**Table 6.4**

*Number of words written by each pair and individual participant*

<table>
<thead>
<tr>
<th>Collaborative (n = 10)</th>
<th>Independent (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pair</strong></td>
<td><strong>Topic</strong></td>
</tr>
<tr>
<td>Aya &amp; Yuka</td>
<td>B</td>
</tr>
<tr>
<td>Fumi &amp; Waka</td>
<td>A</td>
</tr>
<tr>
<td>Ryo &amp; Jo</td>
<td>B</td>
</tr>
<tr>
<td>Hana &amp; Lisa</td>
<td>B</td>
</tr>
<tr>
<td>Hiro &amp; Ema</td>
<td>A</td>
</tr>
<tr>
<td>Kana &amp; Miwa</td>
<td>A</td>
</tr>
<tr>
<td>Go &amp; Tomo</td>
<td>B</td>
</tr>
<tr>
<td>Sho &amp; Nami</td>
<td>A</td>
</tr>
<tr>
<td>Chika &amp; Kojiro</td>
<td>B</td>
</tr>
<tr>
<td>Ichiro &amp; Sala</td>
<td>B</td>
</tr>
</tbody>
</table>

_Note. The pair column is in order of the pair that produced the least number of words in their text to those who produced the most._

To evaluate the potential topic effects on the fluency of the written texts, I conducted a Kolmogorov-Smirnov two-sample test, which showed no statistically significant differences between the two writing topics under the two writing conditions. In the individually written texts, the number of words students wrote in response to Topic A (\(Mdn = 201.5\)) did not differ significantly from the number of words students wrote in response to Topic B (\(Mdn = 179.5\)), \(Z = .9, ns, r = .2\). Likewise, in the collaboratively written text, the number of words students...
wrote in response to Topic A (\textit{Mdn} = 146) did not differ significantly from the number of words students wrote in response to Topic B (\textit{Mdn} = 137), \( Z = .6, ns, r = .2 \).

I also examined whether the number of words written by each student independently correlated to the number of words they wrote in their pairs. Table 6.4 shows the number of words produced by each pair and individual. For example, Aya and Lisa who produced the fewest words in their joint text (107 words) also wrote less than most students in their independent writing (Aya = 145 words; Yuka = 142 words). Likewise, Ichiro and Sala produced the most words in their collaborative text (209 words), although in their independent writing, Ichiro wrote an adequate amount (177 words), and Sala wrote a great many words (274 words). Spearman’s rho test indicated that number of words produced in the individual writing was significantly related to the number of words produced in the collaborative texts, \( rs = .6, p < .05 \). The only pair who did not fit within this pattern was Hana and Lisa. Lisa wrote 254 words (the 4th longest out of 20 students) for her independent writing and Hana wrote 188 words (the 6th longest out of 20 students), but they did not produce a long essay (137 words – the 6th longest out of 10 pairs) when they wrote together.
Chapter 7

Research question 3: L2 learners’ opinions

The third research question examined how students said they felt about writing in pairs and independently while, respectively, talking to their peer or to themselves. I first present the findings from the pre-task questionnaire that addressed the participants’ previous experiences and perceptions of collaborative writing. Following this, I describe the findings from the post-task interview that inquired into preferences for writing in pairs or alone and speech for self while writing independently.

7.1. Students’ experiences and perceptions of collaborative writing

The pre-task questionnaire responses revealed that none of the 20 participants had any previous experiences writing in pairs using their L2, English. However, Ichiro who studied in an international school in Japan had experienced group writing in his elementary school class, and Chika had written a school trip report in groups in Japanese while in high school. In addition to not being familiar with collaborative writing, the majority of the students seem to have never engaged in peer work in their English classes until they entered university two months previously. It was not until they took freshman oral English classes that most of the students were introduced to working with peers in class. This may be why, for most of them, pair work automatically implied the kinds of speaking tasks in which they engaged in their freshman classes. In fact, many of the participants stated that they enjoyed pair work because “it is a valuable opportunity to speak English” (Yuka) and “it helps to improve communication skills by speaking and listening” (Sala).
Furthermore, when asked how much English and Japanese they used during their pair work, all students expressed negative attitudes toward using their L1, Japanese. They either stated that they “use 100% English” (Jo) or “try not to use Japanese” (Tomo) because “otherwise there is no point of doing pair work” (Kojiro). Despite these claims, all 10 pairs used predominantly Japanese while engaging in collaborative writing in the present study, which I assume implies that the pair work the students were envisaging while filling in the questionnaire were the oral tasks they had previously experienced in different contexts.

This misconception that “pair work means oral tasks” is also reflected in the participants’ responses to whether the importance of pair work in English classes varied in a class such as speaking and writing. Ten students noted that speaking is important because “we can’t practice speaking alone but we can improve writing alone” (Ema) and “writing is improved by struggling by myself as to how to express myself or how to organize the sentences” (Sala). Moreover, some students said they felt the need to improve their oral skills “since university English entrance exams [in Japan] do not involve a speaking portion, [they] immensely lack speaking skills compared to other skills such as reading and writing and so we need to practice speaking” (Ryo). For this reason, Kana recommended that the students “only need a short time for pair activities in a writing class.” Jo even urged that “a writing class should be devoted to individual tasks because people normally write alone.”

7.2. Preferences for writing in pairs or alone

The post-task interview responses demonstrated that among the 20 participants, nine (45%) said they preferred to write collaboratively while eight (40%) stated that they preferred to write independently, and three (15%) were undecided. In other words, students’ preferences for collaborative and independent writing were divided approximately equally. Nonetheless, the degree of preference among the participants varied. While some students mentioned that
“I liked both ways but …” (Ema and Hana—chose independent writing), others made immediate decisions (Ryo, Ichiro, Fumi and Waka) to prefer collaborative writing. In addition to asking which writing condition they liked better, the interview addressed the benefits and difficulties of writing with a partner. I summarized the students’ responses to these questions in terms of the positive and negative aspects of collaborative writing in Tables 7.1 and 7.2, respectively. The students’ comments supporting the preference for and benefits of collaborative writing fell into the six main themes: (a) opportunities for new learning; (b) mutual feedback; (c) enjoyable experiences, (d) increased motivation; (e) less stressful; and (f) opportunity to get to know others. It is also important to note that these six themes overlapped with one another. For example, the first theme, ‘an opportunity for new learning’ may have been said to occur through ‘mutual feedback,’ which may also have been an ‘enjoyable’ and ‘motivating’ experience.

Table 7.1 below indicates that nine students appreciated collaborative writing because they thought it provided them with opportunities for new learning. Specifically, writing with a partner exposed the students to a variety of ideas, expressions, language forms and writing styles that may never have occurred if they had written just by themselves (Aya, Comment 1). As Ryo stated in Comment 2, students tend to get stuck with the same writing style. However, writing with a peer partner pushed them to move beyond their personally established style toward writing from a broader perspective. According to Fumi, learning what others write is something students cannot learn in class and therefore it is valuable to discover various alternative approaches to composing.
<table>
<thead>
<tr>
<th>Positive aspects of collaborative writing</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities for new learning [9]</td>
<td>1. I can learn new ideas and new expressions that I would never be able to come up with by myself (Aya).</td>
</tr>
<tr>
<td></td>
<td>2. We all have our favourite expressions and write in a certain way but writing in pairs pushes me to break my rigid style (Ryo).</td>
</tr>
<tr>
<td>Mutual feedback [6]</td>
<td>3. I can ask my partner just about anything, even something trivial that I wouldn’t bother checking if I was writing alone. I can check and get feedback right away (Waka).</td>
</tr>
<tr>
<td>Enjoyable experience [5]</td>
<td>4. Because I had never done pair writing before, I thought it’s going to be difficult. But it went far smoother than I had imagined and when we finished writing, I didn’t even feel tired or that it was difficult. I just felt it was fun and easier [than writing alone] (Waka).</td>
</tr>
<tr>
<td>Increased motivation [4]</td>
<td>5. When my suggestion was used by my partner, I felt like I was recognized by my peer. It motivated me to work harder. (Fumi).</td>
</tr>
<tr>
<td>Less stressful [2]</td>
<td>6. I felt less stressed than writing alone. Because two people are sharing each other’s ideas and knowledge, it’s less pressed that I don’t have to do everything (Ichiro).</td>
</tr>
<tr>
<td>Opportunity to get to know others [1]</td>
<td>7. By talking with my partner, I got to know him better. Like ‘wow he’s thinking things like that!’ It was interesting to get to know my classmate better (Chika).</td>
</tr>
</tbody>
</table>

*Note: The numbers in square brackets indicate the number of respondents who opted for each category of response. Since some students raised multiple themes in their responses, the number of occurrences does not correspond exactly to the number of participants.

Six students said they valued collaborative writing because it offered them mutual feedback. As Waka observed in Comment 3, it was helpful to have somebody beside them to ask for advice and to discuss uncertain points. Some students mentioned that when writing alone, they tended to quickly give up or disregard their language problems as they “cannot be bothered” (Miwa, Nami). However, having a partner encouraged them to tackle problems
because they could receive assistance and feel more responsible for their joint written products. Furthermore, as Chika stated, providing feedback for one another’s ideas further generated superior ideas, which led to improving the text quality.

While the first two positive aspects of collaborative writing focused on issues of learning, the remaining categories were directly related to the affective and social aspects of collaborative writing. Five students enjoyed writing with a partner because it was simply enjoyable. Waka’s remark in Comment 4 illustrates this. She emphasized that joint writing is “fun and easy,” compared to independent writing. Similarly, four students preferred collaborative writing because they felt it enhances their motivation to tackle difficult tasks in this case, writing an essay in their L2. For example, Fumi noted that being recognized by her peer inspired her to work harder (Comment 5). She highlighted that this is something she did not feel when writing independently. One student liked collaborative writing better because it was less stressful than independent writing. According to Ichiro (Comment 6), having a partner made him feel less stressed because knowing that two people are going to share ideas and knowledge reduced his anxiety. Moreover, he found that the ‘less stressed’ status of collaborative writing made him relaxed, which led him to be more creative.

Finally, the last theme focused on the social aspect of collaborative writing. One of the reasons Chika liked writing in pairs was to get to know her partner (Comment 7). Learning what her peer thinks or what sort of English expressions he or she used intrigued her. This may be one of the reasons why collaborative writing was considered an enjoyable task.

Regarding the negative aspects of collaborative writing, five main themes emerged as shown in Table 7.2 below. The most frequently reported challenge of collaborative writing was that the students found it bothersome to negotiate ideas with a partner. While some students viewed exchanging ideas with a peer as a source of learning, others felt it to be a burden. As represented by Hiro (in Comment 8), seven students did not enjoy having to
negotiate every detail of their writing with a partner. Frankly speaking, Kojiro said, “it is too much of a bother”. Moreover, when students faced problems that they were unable to solve on their own, it was difficult to determine whose ideas among a pair might be correct or more appropriate. In Comment 9, Fumi acknowledged the challenge of determining the correct solution to a language problem without the presence of a teacher. Fumi and Waka spent more than five minutes trying to figure out whether they should use the singular or plural form for the word ‘entertainer’ in the phrase, ‘more than any other entertainer.’ After forty turns of discussion, they chose to follow Waka’s solution, the plural form, which was in fact incorrect. Despite this, Fumi also stated that negotiating ideas with a peer was for her an essential learning process.

Three students pointed out that collaborative writing is time-consuming as it requires extra tasks such as synthesizing ideas (Comment 10) and task management compared to writing alone. For example, Ema noted:

> It was difficult to manage time … like we were both taking notes at the same time or we didn’t know which one of us should start writing … so it didn’t flow as smoothly as when I write alone. (Ema, Post-task interview)

This sense may have arisen because this was the students’ first experiences writing collaboratively. In fact, two out of eight students who liked writing alone better than in pairs mentioned that ‘the familiarity of writing independently’ was the reason for their preference.

Three students found it frustrating not to be able to express their thoughts in their own way (as in Comment 11). These students felt interacting with a peer to ‘interfere’ with their own writing process rather than facilitating it. This sense may also be related to the first theme, ‘difficulty of negotiating ideas.’ When both participants desire to maintain their own ideas and writing styles, it certainly makes the negotiation process challenging. In fact, seven out of
eight students who liked writing alone better than in pairs claimed that they enjoyed the ‘freedom of writing independently.’ For instance, Tomo explained, ‘When writing alone, I can write my ideas with my favourite grammar style and expressions at my own pace.’

**Table 7.2**

*Negative aspects of collaborative writing*

<table>
<thead>
<tr>
<th>Negative aspects of CW</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>[No. of respondents]*</td>
<td></td>
</tr>
<tr>
<td><strong>Difficulty of negotiating ideas [7]</strong></td>
<td>8. It’s one essay for two people, so we had to negotiate each other’s ideas. If I was writing on my own, I can just write whatever comes up but with a partner, we had to think about which ideas or sentences were to be used every time, which was a little too much (Hiro).</td>
</tr>
<tr>
<td></td>
<td>9. When we had different solutions to the problem, we didn’t know which was correct, so it was hard. But I thought learning to negotiate each other’s ideas is also important for us (Fumi).</td>
</tr>
<tr>
<td><strong>Time-consuming [3]</strong></td>
<td>10. The problem is that it’s more time consuming than writing alone because we need extra time for synthesizing two ideas (Aya).</td>
</tr>
<tr>
<td><strong>Lack of freedom [3]</strong></td>
<td>11. I didn’t like the fact that I couldn’t write what I want to say in the way I like to express (Jo).</td>
</tr>
<tr>
<td><strong>Familiarity of writing independently [2]</strong></td>
<td>12. This is my first time writing in pairs whereas I’m used to writing alone. So it was easier and went smoother to write alone than writing in pairs (Aya).</td>
</tr>
<tr>
<td><strong>Pressured/oversensitive [2]</strong></td>
<td>13. I was a bit worried if what I was writing was correct. Like ‘what if he points out this isn’t good enough?’ When I write alone, I can just write without worrying about anything but having a partner made me more sensitive about the quality of the text (Sala).</td>
</tr>
</tbody>
</table>

*Note: The numbers in square brackets indicate the number of respondents who opted for each category of response. Since some students raised multiple themes in their responses, the number of occurrences does not correspond exactly to the number of participants.*

Finally, two students felt negatively about collaborative writing because of the affective aspects. Sala, although she preferred writing with a partner, mentioned that she felt
more pressure writing in pairs than alone. As can be observed in Comment 13, she was worried about her partner’s reactions to her writing and felt overly sensitive about it. This feeling is intriguing given Ichiro, her partner, preferred collaborative writing because it seemed less stressful than independent writing.

In summary, the participants were approximately equally divided concerning their preferences for collaborative and independent writing. Nevertheless, when asked which writing condition offers more opportunities for learning, eighteen out of twenty students (90%) stated that they thought they would learn more from collaborative writing. Only one student (5%) chose independent writing and one was undecided (5%). Their reasons to support their choices corresponded to the ‘positive aspects of collaborative writing’ presented in Table 7.1. Intriguingly, all eight students who preferred to write alone rather than in pairs also stated that they thought they learned more from collaborative writing. This tendency implies that these students realized the benefits of collaborative writing, but they still preferred to write independently. For example, Kojiro stated:

When writing alone, there are many things I don’t notice, like grammar errors or poor word choices or things like that. Working with a partner made me realize those, my weakness? And also offers me something I don’t know or never think of. So I think we can learn more from working with a partner. I think so and I know it but I prefer to write alone free of worry [laughing]. (Kojiro, Post-task interview)

In addition, Ichiro’s opinion differed from the rest of the students. While he said he preferred to write with a partner because “it is less stressful and encouraging,” he believed that he could learn more from independent writing as “it’s easier to identify problems from what I produced rather than with a partner.”
Strikingly, when asked whether they would like to write in pairs again as a classroom activity, all 20 participants responded “Yes.” This response indicated that although nearly half of the students preferred to write independently, 90% of them recognized collaborative writing to be a valuable opportunity for learning, and all 20 students welcomed the occasion of joint writing as a classroom activity. The reasons supporting collaborative writing as a classroom activity corresponded to the positive aspects of collaborative writing shown in Table 7.1. In addition to these six advantages of collaborative writing discussed, some students were fascinated with the diversity that exists in pair writing. That is, collaborative writing was seen to provide the participants with a different experience every time they changed their partners. Jo, who preferred independent writing stated that:

> I think everybody is different, so while some people enjoy writing with a partner, some prefer to write alone like myself. But if we write again, that experience might change my or other’s perceptions of joint writing because it’s different every time.

(Jo, Post-task interview)

Three students proposed certain conditions for collaborative writing as a classroom activity. Two students suggested that they should be given ample time to complete a joint text so that they can spend more time negotiating ideas and can actually enjoy the process of peer support. Kana suggested that when students engage in collaborative writing, the whole class period (90 minutes) should be devoted to the task or it should be treated as an assignment due a week later. Kojiro further proposed that it may be suitable to employ a collaborative writing task once every five classes because he thinks “the balance of the two writing activities is important.” Kojiro stated, “I need enough time to incorporate what I learned from collaborative writing to my own writing.”
### 7.3. Students’ preferences and the role of *speech for self*

The interviews also addressed the students’ reflections about their producing *speech for self* while writing independently. I first asked the students’ about their self-perceived production of private speech while writing in English. Among twenty students, six (30%) of them said they usually talk to themselves aloud (to differing degrees) while writing homework at home, two (10%) said they infrequently speak to themselves aloud, and twelve (60%) believe that they hardly ever produce private speech while writing.

All students generated *speech for self* during their independent writing, although the frequency of their speech varied among individuals. Their speech was predominantly in their L1, Japanese. Only one student, Chika used English most of the time. When asked how they felt about their experience of writing while talking aloud, eight students (40%) acknowledged that it was conducive to writing in English while five stated that is was neither good nor bad (25%), and seven (35%) responded that it was somewhat distracting. Among the eight students who found *speech for self* to be conducive to writing, six of them said they usually talk aloud to themselves, while two claimed that they rarely do. Based on their experiences, two students (Fumi and Ema) realized the facilitative role that *speech for self* plays while writing independently.

Four main functions of *speech for self* emerged from analysis of the students’ comments: articulating ideas, confirming ideas, memorizing items, and affective control. Table 7.3 below describes these four functions with illustrative interview excerpts. Among the eight students, three mentioned that they thought *speech for self* helped in articulating ideas. These students explained that externalizing thoughts in speech helped “crystallize” (Chika), “clarify” (Fumi), or “organize and articulate” (Ema) ideas (Comments 14-17).
<table>
<thead>
<tr>
<th>Conducive [8]*</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Articulating ideas</strong> [3]</td>
<td>14. [...] I think talking aloud and talking in my mind are very different. By externalizing my thoughts, the ideas become crystallized and I feel reassured because I can ensure myself what I’m going to write. Sometimes when I’m not allowed to say it aloud, it feels like the words I’m writing down are not really mine. (Chika)</td>
</tr>
<tr>
<td>15. The words didn’t come out at the beginning but after a while I started talking to myself aloud. Then I realized if I don’t talk aloud, my ideas are all over the place. Talking to myself helped me organize and articulate my ideas. When I try to organize my ideas in my head I was like ‘what did I say again?,’ ‘what was I thinking?” and when a new idea comes, I forget the old one, but when saying it aloud, I remember them naturally. (Ema)</td>
<td></td>
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<tr>
<td>16. I felt a little weird as I don’t usually think in a sentence [rather in words]. [This time] when trying to talk to myself aloud, a sentence came out [rather than bits of words]. This actually helped me clarify what I really want to say (Fumi).</td>
<td></td>
</tr>
<tr>
<td><strong>Confirming ideas</strong> [3]</td>
<td>17. Talking aloud helped me to make sure my ideas, like ‘is this right?’ or ‘is this expression or sentence structure ok?’ So I thought it’s good that I can confirm things but at the same time it made me nervous because checking things generates further questions (Hiro).</td>
</tr>
<tr>
<td>18. By saying it aloud, I was able to confirm what I had in my mind, I mean, I was able to grasp a clear image of what I thought in my mind (Tomo).</td>
<td></td>
</tr>
<tr>
<td>19. By reading aloud what I wrote, I can sense what I don’t feel quite right about and it helped me to correct the awkward parts. Reading aloud is clearly different from reading silently in the sense that I can identify problems (Nami).</td>
<td></td>
</tr>
<tr>
<td><strong>Memorizing items</strong> [2]</td>
<td>20. When I encounter something I don’t know, I tell that to myself aloud as in ‘oh I see’ so that I can remember that (Kojiro).</td>
</tr>
<tr>
<td>21. I normally practice language items by saying it aloud and memorize them with its rhythm. Like this ‘suffering from’ [in my essay], I learned this by saying an example sentence</td>
<td></td>
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</tbody>
</table>
aloud. So if I don’t say it aloud while writing it down, I feel nervous. By saying like ‘are suffering from’ while writing, I can convince myself, yes, this is the rhythm. If I miss ‘from,’ then I can sense there is something missing (Kana).

**Affective control [1]**

22. I usually talk to myself aloud when I do homework so I didn’t feel strange or anything like that. I usually talk to myself when I’m in trouble [laughing]. Saying it aloud… calms me… makes me feel less stressed. Maybe I’m trying to control myself by saying it aloud (Miwa).

<table>
<thead>
<tr>
<th>Neutral [4]</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No influence [4]</strong></td>
<td>23. It was a funny feeling because I don’t think I usually talk to myself aloud. I felt a little embarrassed … but I don’t think it affected my writing in any way (Ichiro).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative [8]</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distracting [5]</strong></td>
<td>24. I found it a little difficult because I don’t usually say it aloud. So it distracted me a little (Kana).</td>
</tr>
<tr>
<td></td>
<td>25. It was a little weird. I mean talking aloud didn’t really matter but having an IC recorder gave me pressure that ‘I have to talk’ which might have distracted me a little (Sala).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Visual thinker [2]</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>26. I don’t think I talked aloud much. I totally forgot about talking aloud to myself… I usually don’t clearly say it aloud to myself when working on something. I usually visualize images in my mind. So externalizing words distracts my concentration a little (Jo).</td>
</tr>
<tr>
<td></td>
<td>27. […] I usually visualize my ideas rather than express them in a language. I know I have to write them using a language but rather than thinking in a word, I visualize it, and write down the image. I don’t think I talk to myself in my mind that much either (Go).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doubting themselves [1]</th>
<th>Exemplifying comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28. I found it difficult. Saying it aloud confused me a little. I mean, it made me worried, like ‘is this really correct?’… because it exposes the problems and forces me to over-think, I guess (Lisa).</td>
</tr>
</tbody>
</table>

*Note. The numbers in square brackets show the number of students who opted for each category of response.*
Similarly, three students mentioned that producing *speech for self* enabled them to confirm their ideas. In contrast to ‘articulating ideas,’ referring to a function that organizes or crystallizes fragments of ideas that the students had in their mind, ‘confirming ideas’ refers to a function where students already hold a certain idea in their mind, and by explaining that idea to oneself aloud, they are able to confirm whether or not it is exactly what they were thinking.

Two students stated that *speech for self* helped to ‘memorize items.’ While Kojiro talked to himself aloud to learn a new item that he encountered while writing (Comment 20), Kana talked to herself aloud in order to confirm whether the sound of the item she had memorized previously matched the item she had in her mind (Comment 21). Finally, one student Miwa mentioned that she used *speech for self* to control her emotions. According to Miwa, she usually talks to herself aloud when she is in trouble in order to calm her thoughts. Although Miwa is the only student who explicitly expressed an affective role that *speech for self* plays during the interview, there were indeed abundant examples demonstrating how learners use self-talk to manage themselves affectively. For example, in Comment 14, Chika noted that talking to herself aloud makes her feel reassured. When she is unable to verbalize her thoughts, she feels the words she is writing are not really hers.

Four students mentioned either neutral or both positive and negative views of talking to themselves aloud while writing in English. When asked their reactions about engaging in *speech for self*, these students typically answered “it was a little weird” (as they rarely do it) but it did not affect their process of writing in a negative way, as illustrated in Comment 23. Hiro raised both positive and negative functions of *speech for self* – while it was conducive to confirm what he had in his mind, doing so disclosed the problems that would otherwise be unidentified, which led him to second-guess his decisions (Comment 17).

Finally, eight students said they felt talking to themselves aloud while writing to be a rather negative experience. These students mentioned that engaging in *speech for self* while
writing in English was: distracting, interfered with their visual thinking, or forced them to doubt themselves. Five of these students said they found talking to themselves to be distracting. As Kana stated, it distracted her concentration by creating an extra task in addition to writing in English as an L2 (Comment 24). Sala mentioned that talking while writing affected her concentration. Two male students (Jo and Go) claimed that they are visual thinkers and therefore found verbalizing their thoughts in speech to be difficult and required extra effort, so they produced little *speech for self*. Believing that he seldom produces inner speech, Go stated how he wrote his independent essay regarding the athlete he would like to meet:

I visualize the athlete and rather than thinking in a sentence, I visualize the image that I am meeting him. Then what am I doing? I want to ask this question so perhaps I will be talking to him about this kind of stuff or things like that. Then I will write that image down. It’s hard to explain… but it’s mainly images [and not words].

(Go, Post-task interview)

Lastly, one student, Lisa pointed out that talking aloud while writing led her to second-guess the problems. In Comment 26, Lisa admitted that talking to herself aloud led her to over-think. In other words, *speech for self* disclosed the problems that would otherwise have remained hidden, which forced her to over-analyse the language problems.
Chapter 8

Discussion

In this final chapter, I discuss and interpret the findings in relation to the three research questions. I first synthesize the analysis and findings of the present study. I then discuss the theoretical and pedagogical implications of the study. Finally I acknowledge the limitations and suggest directions for future research in this area.

8.1. Answers to the research questions

8.1.1. Verbalization processes during collaborative and independent writing

The first research question investigated whether there were differences in the verbalization processes that learners produced when writing in pairs and alone. I analysed audio-recorded pair dialogues during collaborative writing and speech for self during independent writing in terms of language-related episodes, text-related episodes, and scaffolding episodes.

*Language-related episodes (LREs) – frequency*

In summary, although the overall frequency of LREs was similar in both collaborative (219 LREs) and independent writing (250 LREs), when considering a pair as a unit of one, the LREs produced by pairs ($Mdn=20.5$) were significantly higher than by individuals ($Mdn=12.5$), $z = -3.55, p < .001, r = .79$. In other words, two people writing together talked about language issues nearly twice as much as one learner did individually. Although whether there is a link between the frequency of collaborative dialogue and language learning is still being explored, a number of studies have confirmed that it is a source of learning (e.g., Brooks & Swain, 2009; Kim, 2008; Storch, 2004; Swain & Lapkin, 1998; Watanabe & Swain,
Therefore, one way to interpret this result is that pair writing may promote more LREs than independent writing, and thus collaborative writing may foster more opportunities for learning L2 than writing independently. However, it is necessary to caution that the verbalization data concerned in this study only captured people’s ‘vocalized’ LREs. It is unknown how many LREs were produced as inner speech, either during independent or collaborative writing. Furthermore, it remains uncertain as to what the differences are between vocalized and sub-vocalized self-directed speech in terms of learning because the verbalization data in this study were collected differently in the two writing contexts (as either naturally occurring pair dialogue versus encouraged self-directed speech).

Learners who produced LREs frequently when writing alone also generated LREs frequently when writing with a partner, and vice versa. Swain and her colleagues (Knouzi, et al., 2010; Swain et al., 2009) have suggested that some students are more capable of languaging than others and that learners vary in the range of self-regulatory tools they use during problem-solving tasks because their abilities to mediate their own learning are rooted in individuals’ interpersonal experiences (Lantolf, 2003). Some learners in the present study seemed more capable of using language as a meditational tool (languaging) than others whether writing collaboratively or independently.

**LREs – types**

In terms of types of LREs, four trends were observed. First, participants in this study focused on similar aspects of language whether writing in pairs or independently. The participants focused most on lexis (collaborative = 53%; independent = 70.4%), followed by language form (collaborative = 23.7%; independent = 23.6%), mechanics (collaborative = 12.8%; independent = 5%) and stylistics (collaborative = 10.5%; independent = 1%).

Second, although the classification of LRE types differed in previous research findings (e.g., Hanaoka, 2007; Leeser, 2004; McDonough & Sunitham, 2009; Qi & Lapkin, 2001;
Watanabe & Swain, 2007; Williams, 2001), the present L2 learners similarly paid greater attention to lexical choices than to other language aspects while they composed. Of particular interest, Murphy and Roca de Larios (2010) found that even advanced level EFL learners had to work hard to find the words with which to express their intended meanings while composing in their L2. They concluded that all L2 writers, despite their L2 proficiency, focus predominantly on the lexical meaning and choices while composing (see also Cumming, 1990). The findings of the present study provided additional support for their claim. In addition, individuals during independent writing discussed lexis-focused episodes more frequently (70.4%) than did pairs in collaborative writing (53%).

Third, pairs focused greater attention on spelling than individual writers, which is explicable, given the nature of collaborative writing – while one student is scribing, another student can act as an editor and pay close attention to language mechanics. Finally, pairs produced considerably more stylistics-focused LREs (10.5%) than did individuals (1%), suggesting that collaborative writing may draw greater attention to the stylistic aspects of writing than does independent writing. All students have their own writing styles and favoured expressions (as exemplified in Kojiro’s, Ryo’s, Sho’s, and Tomo’s post-task interviews), thus, it is understandable that writing in pairs prompted discussions regarding stylistics. Moreover, collaborative writing offers increased opportunities for writers to act not only as a writer but also as and with a reader, so students are provided with more critical eyes toward an audience to create communicatively effective texts.

**LREs – Outcomes**

With regard to LRE outcomes, both pairs and individuals correctly resolved a noteworthy number of LREs (collaborative = 86.2%; independent = 84%) while only a small number of LREs were resolved unsuccessfully in both writing conditions (collaborative = 12.8%; independent = 12.7%). These findings confirm earlier research on collaborative
dialogue showing that L2 peers are capable of correctly resolving language problems (e.g., Kim, 2008; Leeser, 2004; Storch, 2007; Watanabe, 2004). One may argue that even a small proportion of incorrectly resolved LREs may hinder language learning. However, researchers examining the effects of self-explanations in other contexts have claimed that even incorrect self-explanation can be beneficial for learning (Bunt, Conati & Muldner, 2004; Chi et al., 1989). For example, Fumi noted in her post-task interview, regarding the longest LRE that Fumi and her partner produced, “I felt that negotiating ideas with a peer itself is an essential learning process.” If persevering to solve language issues is an important aspect of language learning, it is possible to claim that collaborative writing offers more opportunities for language learning.

**Text-related episodes (TREs)**

Overall, the total frequency of TREs was similar in both collaborative (37 TREs) and independent writing (35 TREs). However, when considering a pair as a unit of one, TREs produced by pairs (Median = 3.0) were significantly higher than those produced by individuals (Median = 2.0), $z = -3.01, p < .01, r = .67$. Exhibiting a similar trend to their LREs, two people writing together talked about the organization, content, and format of their texts more than one learner did individually. It is important to note that compared to the frequency of LREs (Median = 20.5 for pairs; Median = 12.5 for individuals), students in both collaborative and independent conditions produced fewer TREs (than LREs). This difference suggests that the students attended far more frequently to language-focused problems than they did to the text-related issues.

Both collaborative and independent writers paid greatest attention while composing to their discourse organization (collaborative = 54.1%; independent = 51.4%), followed by content (collaborative = 35.1%; independent = 34.3%) and format (collaborative = 10.8%; independent = 14.3%). These Japanese university English learners newly introduced to
academic essay writing predominantly attended to the organization of their essays rather than to other aspects of their overall texts whether writing in pairs or alone.

*Scaffolding episodes (SEs)*

Both pairs and individuals employed verbal scaffolding to mediate their writing. Although the overall frequency of LREs were similar in both collaborative (361 LREs) and independent writing (384 LREs), when considering a pair as a unit of one, the LREs produced by pairs ($Mdn = 37.5$) were significantly greater than for individuals ($Mdn = 18.0$), $z = -3.89$, $p < .001, r = .87$. Therefore, like both language-related and text-related episodes, two learners writing together used verbal scaffolding almost twice as much as one learner did individually.

The distribution of the present students’ scaffolding episodes differed in both collaborative and independent writing. While pairs used a variety of scaffolding episodes with relatively comparable proportions during collaborative writing, individuals employed a limited range of scaffolding strategies in higher proportions during independent writing. Translating, questioning, and reading dominated three-quarters of the scaffolding strategies used in independent writing. In contrast, eliciting, restating, and instructing were only observed during collaborative writing. Collaborative writing seems to offer and stimulate more varied kinds of opportunities to provide and receive scaffolding while writing.

Previous research has demonstrated that peer-scaffolding (e.g., Donato, 1994; Ohta, 2001; Watanabe & Swain, 2007) and self-scaffolding (Knouzi et al., 2010; Negueruela, 2008; W. Suzuki, 2012; Swain et al., 2009) are useful tools to mediate L2 learning. Some scholars have argued that the development of scaffolding skills is essential for students (e.g., Bickhard, 2005) and recommended that teachers model verbal self-scaffolding for their students to raise their awareness as a useful self-regulatory tool (Knouzi et al., 2010). Engaging in collaborative writing might similarly help students to become more aware of various uses of scaffolding, which may also improve their strategies to self-scaffold while writing.
Considering each scaffolding strategy, six points are worth noting. First, repetition was by far the most frequently used self-regulatory tool in both collaborative and independent writing. Previous studies have claimed that repetition is ‘pervasive’ in conversation in L1 (Tannen, 1989), L2 learners’ collaborative dialogue (DiCamilla & Antón, 1997), and in their private speech (Ohta, 2001; Yoshida, 2008). The students in the present study strategically repeated words or phrases that they or their partner produced. Repetition was used not only as a cognitive tool such as for retrieving word meanings or memorizing unfamiliar expressions (de Guerrero, 2004), but also as social and affective tools (McCafferty, 1994) to establish or maintain intersubjectivity (DiCamilla & Antón, 1997; Rommertveit, 1985) during collaborative writing or to control one’s actions or emotions while writing alone.

Second, the results demonstrated that both pairs and individuals relied heavily on translation from their L1, Japanese, to scaffold their writing in English. Previous studies on L2 writing and translation have observed that the process of translation may be useful for L2 writing development, particularly for learners with lower proficiency in the target language (e.g., Cumming, 1990; Kobayashi & Rinnert, 1992; Murphy & Roca de Larios, 2010; Uzawa, 1996; Uzawa & Cumming, 1989). From this perspective, consulting a bilingual dictionary or peer to seek word meanings in the L2 seems an efficient way to improve one’s L2 writing. The present students may have depended more on translation when writing independently to compensate for the absence of a peer as a meditational means, whereas pairs may have tended to construct their own meanings together through conversation rather than depending on translation to support their writing.

Third, collaborative writing provided students with opportunities to assess or receive feedback on their writing, which may be useful when writing independently and which conceivably fosters better self-editing skills (Yang, Badger & Yu, 2006). In fact, several studies of peer feedback have reported that peer feedback activities enhance learners’ critical
reading and evaluation skills (e.g., Keh, 1990; Rollinson, 2005). In their research on the role of languaging in L2 learning, Swain et al. (2009) found that ‘high languagers’ who produced a high frequency of language units used self-assessment more frequently than did middle and ‘low languagers.’

Fourth, students in the present study made limited justifications to scaffold their writing in both collaborative and independent writing. Storch (2008) found that elaborated languaging rather than simply verbalizing decisions may lead to more instances of learning during collaborative problem-solving tasks. Other scholars agreed that justifying or reasoning about language-related decisions may facilitate knowledge transfer (Qi & Lapkin, 2001; W. Suzuki, 2012; Swain et al., 2009). The nature of collaborative writing may provide more instances in which learners need to defend their choices to their partner than when writing independently.

Fifth, the extent of affective support displayed in the present study was relatively small (collaborative = 3.6%; independent = 2.8%). Previous research has found that verbal scaffolding aiming to provide affective support is commonly observed during collaborative problem-solving tasks (e.g., Villamil & de Guerrero, 1996; de Guerrero & Villamil, 2000). In the present study, affective support may have been subtly expressed throughout the learners’ pair talk and speech for self, for example, through repetition to establish and maintain shared understandings (DiCamilla & Antón, 1997) or intersubjectivity (Rommertveit, 1985).

Sixth, although their proportions were small, eliciting, restating, and instructing were scaffolding strategies observed only during collaborative writing and not during independent writing. According to Villamil and de Guerrero (1996), eliciting was one of the most salient scaffolding sub-strategies among their participants engaging in peer feedback. Furthermore, restating or paraphrasing is an important yet challenging device in academic writing (Hirvela
Additionally, the act of *instructing* not only helps peers understand their writing but also benefits explaining things learned (Johnson & Johnson, 1993; Watanabe, 2008).

### 8.1.2. Written texts produced from collaborative and independent writing

The second research question addressed how writing in pairs and independently influenced the quality of texts written. The analysis of the texts showed the scores of the ten collaboratively and twenty independently written texts using Hamp-Lyons’ (1991) 9-point *global* and *communicative profile* scales demonstrated no difference in both *global* and *communicative profile* scores in terms of the five *communicative profile* traits. As for fluency, however, the learners produced a statistically significant greater number of words when writing independently than collaboratively, suggesting that independent writing may be more conducive for producing more written text.

The results of the present evaluative ratings of the compositions can be compared to certain previous studies, but with mixed or uncertain results. Fernández Dobao (2012) found no statistically significant differences in accuracy between collaboratively written texts and independently written ones, although pairs received better scores on most of the accuracy measures than did individual learners. Storch and Wigglesworth (2007), and Wigglesworth and Storch (2009) found texts written in pairs were significantly more accurate than those written independently. Nixon (2007) found that collaborative groups achieved higher scores than individuals on their independent writing in respect to ratings of communicative quality along with organization and linguistic appropriacy. In terms of fluency, the fact that the individual writers in the present study produced significantly more words than did pairs conflicts with earlier research (Nixon, 2007, Storch, 2005, Storch & Wigglesworth, 2007, Wigglesworth & Storch, 2009).
Nevertheless, the finding of the present study was consistent with Shi (1998). Shi examined the effects of prewriting discussions on the quality of students’ compositions with adult ESL students. Each student wrote an opinion essay under three different conditions: peer prewriting discussion, teacher-led prewriting discussion, and no discussion. Shi found no statistically significant differences in the ratings of the compositions under the three conditions. Moreover, it was found that the students wrote longer texts under the no discussion condition. Shi therefore claimed that the length of compositions corresponded inversely to the number of writers or to the extent to which learners were exposed to various opinions during the prewriting discussion.

There are three possible reasons for the discrepancies between the evaluations of written text qualities in the present study and earlier research: (a) different and imprecise measurement instruments; (b) different time periods on writing tasks, and (c) different student populations and educational contexts. First, previous research employed a variety of measures to assess learners’ texts written jointly and independently. For example, in order to measure grammatical accuracy, at least three measurements were employed by the earlier studies, including Hamp-Lyons’ (1991) global and communicative profile scales (Nixon, 2007 and the present study), global scales adopted from Hedgcock and Lefkowitz (1992) (Shehadeh, 2011), and calculations of the proportion of error-free clauses written (Fernández Dobao, 2012; Storch, 1999, 2005; Storch & Wigginsworth, 2007). Not only would these differing instruments be expected to produce variable findings, but all involved methods that only provide partial perspectives on the full qualities of written texts. Rating scales such as Hamp-Lyons (1991) and Hedgcock and Lefkowitz (1992) are designed to distinguish gross characteristics of writing on simple scales among large populations of English learners rather than to provide fine-grained distinctions suitable to distinguish task performances, individual abilities, or indications of learning (Cumming, 2002; Jarvis, Grant, Bikowski, & Ferris, 2003).
Analyses of linguistic accuracy in L2 writing are notoriously difficult to operationalize and offer only a limited view on the multi-faceted dimensions of writing (Leki, Cumming & Silva, 2008; Polio, 1997).

Second, prior research allocated differing time periods for collaborative and independent writing. Some studies assigned the same time for both writing conditions (Fernández Dobao, 2012; Nixon, 2007; Shi, 1998), but Nixon (2007), for example, involved students writing for 85 minutes, considerably longer than the 30 minutes allocated in the present study, and probably time for students to write in substantially different ways in each study. Other studies allocated collaborative writing groups a longer time than independent writing groups (Storch, 1999), or provided no fixed time constraints at all (Storch, 2005).

It is important to note that Shi (1998), whose findings were consistent with the present study also assigned the same time for different writing conditions. Shi pointed out that most of the previous studies on prewriting discussions allocated unequal time periods for different writing conditions, and thus carefully controlled the time variables in order to compare the three writing conditions in her study.

Finally, previous studies investigated different student populations including adults ESL learners in Canada (Shi, 1998) and Australia (Storch, 1999, 2005; Storch & Wigglesworth, 2007), adult EFL learners in Thailand (Nixon, 2007) and UAE (Shehadeh, 2011), and adult L2 Spanish students in the U. S (Fernández Dobao, 2012). Thus, the language in which learners interacted in each study varied. In other words, while some learners were required to use their L2 to talk and write with their peer in the ESL research contexts, other learners in FL contexts used their L1. Furthermore, while some studies were conducted in an intact class as part of the course schedule (Fernández Dobao, 2012; Shehadeh, 2011; Storch, 2005), others involved participants who were recruited for the research purpose, and thus they were not familiar with the peer partner who they wrote with.
Since social relations are essential for collaborative work (Donato, 2004) and thus acquaintanceship affects L2 learning (O’Sullivan, 2002), these different research contexts may have influenced the quality of writing produced in each research study. In addition, participants in previous studies may have had different experiences writing collaboratively which may have influenced the quality of their text. For example, my participants had no experience writing in pairs to produce a joint text in their L2.

8.1.3. Learners’ opinions about writing collaboratively and independently

Analyses of the pre-task questionnaire, stimulated recall, and post-task interview responses yielded the following results regarding collaborative versus independent writing. First, none of the 20 participants had prior experience writing in pairs in L2 contexts. Furthermore, most students held the view that peer interactions were important for improving oral communication skills in English but not necessary for writing skills. These attitudes resembled those of the 12 participants in my earlier study (Watanabe, 2004) who were also Japanese English learners, but were studying in English in Canada. The participants’ involvement in collaborative L2 writing in the present research was their initial introduction to this manner of composing rather than the products of extended experiences or practice.

Despite, or perhaps because of, their lack of experience and preconceived ideas about collaborative writing, 90% of the students stated that they thought they would learn more from writing in pairs than writing independently, and all 20 students expressed their desire to engage in collaborative writing as a classroom activity again. At least half the participants said they preferred to write with a peer more than writing independently, and all 20 students recognized collaborative writing as a source for L2 learning. Even the students who stated that
they preferred to write independently stated that collaborative writing could offer more opportunities for learning than independent writing does.

These findings corroborate the L2 learners’ opinions expressed in other collaborative L2 writing studies (e.g., Nixon, 2007; Shehadeh, 2011; Storch, 2005). Most of the English learners in these studies expressed positive feelings towards writing in pairs by listing several benefits of collaborative writing. Interestingly, a couple of students in Storch’s (2005) study who showed some reservations about collaborative writing were both Japanese females, suggesting that joint writing may not be well-received by Japanese L2 learners. One possible explanation for this somewhat conflicting finding may stem from the language of dialogue. While the students in the present study often spontaneously chose to use their shared first language to engage in their dialogue, the Japanese students in Storch (2005) were required to use their target language, English. Had these students been using their L1 to create a composition, they might not have felt embarrassed by their perceived poor English skills.

Students’ interview responses focused on six perceived benefits of collaborative writing: opportunities for new learning, mutual feedback, enjoyable experiences, increased motivation, less stressful and opportunities to get to know others. On the other hand, the challenges of collaborative writing were stated to involve: the difficulty of negotiating ideas, time-consuming activities, lack of freedom, familiarity with writing independently, and feeling pressured/oversensitive. These benefits and challenges underscore the importance of recognizing that both collaborative and independent writing play significant, but different roles in learning L2 writing. Any language activity is unique as it involves multiple agendas, goals, settings, and participants with different intentions (Coughlan & Duff, 1994; Matusov, 1996). More opportunities to write collaboratively may improve these learners’ strategies to negotiate ideas and manage time as well as change their perceptions about writing collaboratively and independently.
The third research question also addressed how students felt about producing *speech for self* while writing alone. During their independent writing, all 20 students generated *speech for self* to a different degree, predominantly in their L1, Japanese. When asked how they felt about externalizing their inner dialogues while writing in their L2, eight students (40%) felt that it was indeed conducive to writing, whereas five (25%) felt neutral, and seven (35%) expressed a negative view. In addition, their self-reports indicated that six students (30%) normally produced private speech while writing homework at home, two (10%) infrequently produced it, and twelve (60%) believed that they hardly ever talk to themselves aloud while writing.

The participants’ interview comments elicited four main functions of *speech for self*: articulating ideas, confirming ideas, memorizing items, and affective control. The students reported that talking ideas through with themselves helped “crystallize” (Chika), “clarify” (Fumi), and “organize and articulate” (Ema) them. It also facilitated their being able “to grasp a clear image of what [they] conceived in [their] mind” (Hiro). These students’ reflective comments resembled and support Swain's (2006a, 2010) argument regarding the critical role that languaging plays in L2 learning.

A couple of students reported that *speech for self* helped “memorize items” that they encountered while writing. One student mentioned that she talked aloud about a certain language item to confirm whether the sound of the item she had memorized previously matched the item she had in her mind, confirming a long-established cognitive strategy to learn language items (Oxford, 1990). The final function of *speech for self* that students experienced was affective control. Some students observed that talking to themselves aloud was calming when they faced problems (Miwa, Yuka), allowing them to release stress by externalizing emotional outlets (Miwa), and “to be more expressive,” or more accurately reflect their own voice (Chika). The finding that *speech for self* functions not only as a
cognitive tool but also as an affective tool confirmed previous literature on the role of private speech in L2 learning (Centeno-Cortés, 2003; DiCamilla & Antón, 2004; McCafferty, 1994; Yoshida, 2008).

While eight students stated a positive view of producing *speech for self* while writing, seven students expressed negative opinions about it, claiming that *speech for self* while writing in their L2 was distracting, interfered with their visual thinking, and forced them to second-guess themselves. Although seven participants reported a negative view of *speech for self*, it did not seem to affect the quality of their texts, raising the speculation that despite the negative opinions, *speech for self* might have facilitated some students’ writing.

A few studies in the area of SLA have investigated the roles of (the intentional use of) *speech for self* in understanding new grammar concepts (Negueruela, 2008; Swain et al., 2009), new vocabulary (Borer, 2007), and improving writing accuracy based on the direct feedback on linguistic errors (W. Suzuki, 2012). All of these studies found a positive link between languaging and learning. To the best of my knowledge, however, no prior studies have investigated the effects of *speech for self* while writing. Although verbal protocols have been used and well-researched in the contexts of L2 writing for decades (see Bowles, 2010 for a review), these methods have been viewed as mere data collection tools and thus scant attention has been paid to the potential role that verbalization plays in L2 writing (see also Swain, 2006b). Future research in this area will benefit from studies on the intentional use of verbalizing thoughts as a source for L2 writing improvement.

A related question concerns whether the *speech for self* is conducive to any particular kinds of L2 learners. In the present study, nearly half of the participants acknowledged that they believed talking to themselves facilitated their writing, while the rest claimed it to be neutral or negative. Negueruela’s (2008) participants regularly engaged in self-explanations of grammatical concepts, which he reported as related, albeit unequally, to development of
participants’ internalization of concepts. Similarly, Swain and her colleagues (Knouzi et al., 2010; Swain et al., 2009) found that while some participants efficiently deployed languaging, others struggled. They concluded that learners differ in terms of the range of self-regulatory tools available to them during problem-solving tasks. If this is the case, it may be essential to raise learners’ awareness of the critical role that languaging may play, and provide them with more opportunities to externalize their inner speech (Knouzi et al., 2010).

While Swain and her colleagues’ claim that not all learners are ready to efficiently use languaging, the question also arises as to whether the effectiveness of languaging depends on individuals’ styles for learning an L2. Two of the participants in the present study claimed that they are visual thinkers and therefore, verbalization while writing demanded extra efforts for their writing tasks. Given the increased attention to the roles of verbalization in L2 learning, more studies investigating the effects of verbalization while writing, and individual differences on the effects of verbalization, are called for.

### 8.2. Implications

#### 8.2.1. Theoretical implications

The present study has implications for the following theoretical issues: verbalization and learning and scaffolding and learning. These implications follow from and support the SCT premise that learning is mediated by culturally constructed artifacts (Lantolf, 2000a; Vygotsky, 1978). This study took a novel design in an attempt to compare verbalization processes while writing in pairs and independently through tracing peer-peer dialogue and *speech for self*. The purpose of this analysis was to understand the processes of collaborative and independent writing as well as the roles of languaging as a meditational tool in L2 learning.
The verbalization data demonstrated that some of the students’ talk while writing – both with their peer and with the self – fits Swain’s (2006a) definition of languaging. When students wrote in pairs, there were many occasions in which they used language as a cognitive tool to mediate problem-solving and knowledge building. The students verbalized the problems that arose from their interaction, and they reflected on what had been said in order to expand their understandings. When students wrote independently, the students also talked it through with themselves to solve problems and make meaning. These languaging episodes documented how language serves as a mediational tool to regulate cognitive behaviour whether writing in pairs or alone.

In addition to investigating evidence of languaging, the present data also showed that many of the learners were aware of the role of languaging. They acknowledged that when writing in pairs, talking to their peer prompted them to “tackle problems” and “generate superior ideas.” When writing alone, verbalizing their thoughts helped some students to “crystallize,” “clarify”, “organize and articulate” their ideas. Both the students’ languaging and reflections support the contention that languaging – “a dynamic, never-ending process of using language to make meaning” (Swain, 2006a, p. 96) – is a source for L2 learning. The present study, therefore, offers additional support to the claim that providing learners with the opportunity to verbalize their thoughts either with their peer, or with themselves as they work on cognitively complex activities, shapes their knowledge building and therefore potentially their L2 learning (Swain, 2006a).

Both collaborative and independent writing offers students opportunities to mediate their language-related and text-related problems and correctly resolve them. However, talking with a peer, rather than with the self, may increase the likelihood of opportunities to engage in languaging as the language of the peer may stimulate and trigger the language of their peer
partner. Thus two learners talking and writing together may reach a better understanding. This point is also relevant to the second implication – about scaffolding and learning.

A second theoretical implication regards scaffolding. A unique aspect of the current study is that it documented how the same L2 learners deployed verbal scaffolding while writing in pairs and alone. The analysis of the students’ talk with a peer and with themselves portrayed how university learners in an introductory English writing course were capable of providing verbal assistance not only to their peers but also to themselves. The scaffolding episodes during collaborative and independent writing illustrated that both pairs and individuals used a variety of verbal scaffolding strategies as a self-regulatory tool to assist themselves and their peers. The students employed, for instance, questioning, translating, and suggesting to solve problems as they arose while writing and attempted to resolve them. They also used other tools such as a dictionary and their own written texts to mediate their composing process.

As discussed in Chapter 2, not all interaction leads to development because to do so an interaction needs to operate within a ZPD (Vygotsky, 1978). The present data demonstrated that verbal scaffolding is a tool by which the ZPD gets created. It has been argued that learners may have difficulty scaffolding their peers because they are not sensitive to their peer’s ZPD (e.g., Platt & Troudi, 1997). However, the present data about scaffolding episodes suggest that learners may be sensitive to each other’s ZPD, as well as their own, and also they are aware of the necessary tools needed to construct their ZPD. It is important to note, however, that individual differences certainly exist in terms of the level of this awareness.

In addition, although not examined within the scope of the current study, it is possible that the roles of expert-scaffolding and peer-scaffolding may not be equivalent. What students learn from their peers may be different from what they learn from a teacher. In fact, peers may be as good a source of cognitive development as an expert because peers are more likely to
speak in a way that the learner can understand and challenge one another more than a teacher might (see also Damon, 1984). One of the present participants, Fumi, for example, commented that “we cannot learn how our classmates organize, and use grammar and vocabulary during the teacher’s lecture”, implying that learners may be aware of the need for various sources of expertise for the creation of a ZPD and recognize that peers are one of these sources. While teacher scaffolding is clearly needed, peer scaffolding has a role in L2 learning.

Compared to independent writing, collaborative writing seemed to prompt students to use a wider range of verbal scaffolding at a greater frequency than did independent writing. Since the ZPD is an activity, and the scaffolding strategies required to construct a ZPD would vary depending on the context and the learner, the creation of a ZPD requires different levels of feedback (Aljaafreh & Lantolf, 1994) and different types of expertise (Brooks & Swain, 2009). Therefore, by recognizing a variety of scaffolding strategies, and when best to use those that are most appropriate, might enhance the construction of a ZPD. In this sense, writing with a peer may help increase learners’ repertoires of mediational strategies so that they can make use of those which they find most effective in constructing a ZPD.

Finally, it is important to note that, unlike previous studies (e.g., Knouzi et al., 2010; Swain et al., 2009; W. Suzuki, 2012), the present study was exploratory, seeking to document evidence of self-scaffolding and compare it to collaborative scaffolding, rather than evaluating in depth the links between the production of scaffolding episodes and subsequent performance. I examined, however, the quality of the students’ texts, and found that there was no difference between the two writing conditions based on the global and communicative profile scales, but it probably takes weeks or months of writing and learning, rather than just performing a couple of tasks, for development in English writing to occur in ways that can be measured by holistic assessments of written compositions. While suggesting a direction for
future research, the results of this study contribute to the understanding of scaffolding and construction of a ZPD.

8.2.2. Pedagogical implications

The main pedagogical implication that arises from the present findings is that L2 teachers, particularly FL teachers, could benefit from using both collaborative and independent writing to enhance their students’ writing. The present study demonstrated that both collaborative and independent writing have a place in FL writing classrooms. Despite the participants’ preconceived view that peer-peer dialogue is unnecessary for improving writing skills, and the literature suggesting that collaborative writing may not be embraced by Japanese L2 students (Storch, 2005), the participants in this study expressed a strong desire to write in pairs as a classroom activity. As discussed in Section 8.2.1, university L2 learners are aware of the roles and needs for peer mediation in addition to teacher mediation, and eager to learn from their peers’ writing as a key source of scaffolding.

While the previous research on peer-peer dialogue has established the valuable role of collaborative dialogue in L2 learning, it also underscored the importance of teacher mediation during or after the collaborative writing. The literature has shown that students may be unable to solve certain language problems during collaborative problem-solving (e.g., Leeser, 2004; Lynch, 2001; Swain, 1998; Watanabe & Swain, 2007). Interestingly, most participants in the present study were able to solve most of the linguistic problems they encountered while writing (86.2% on average), though a few problems were left unsolved (0.9% on average) and incorrectly resolved (12.8% on average). Thus, it is necessary that teachers are available for questions during collaborative writing, or that they provide feedback on the final written products (Swain, 1998).

In addition, when incorporating collaborative writing or independent writing with speech for self into the FL classes, whether teachers should allow their students to use their L1
may be a concern. Although many FL teachers wish to maximize the students’ use of the target language in the classroom, the literature within SCT framework suggests that the L1 is a useful cognitive tool to mediate language learning (e.g., Antón & DiCamilla, 1998, 1999; Brooks & Donato, 1994; Leeming, 2011; Storch & Aldosari, 2010; Storch & Wigglesworth, 2003; Swain & Lapkin, 2000, 2013; Villamil & de Guerrero, 1996). Furthermore, research on L2 writing has suggested that L1 serves to generate ideas, make meaning of the text, and retrieve information from memory (e.g., Cumming, 1990). In the present study, despite providing no instructions regarding language choice, all participants chose to use their L1, Japanese, for collaborative writing, and most students predominantly used Japanese for their independent writing. The majority of the students mentioned during interviews that the L1 facilitated their dialogue (with the peer and the self) and problem-solving, while using the L2 would have been cognitively demanding, and thus would have hindered their writing processes.

Finally, based on my observations as a former teacher and student in the English classrooms in Japan, it is common practice for a teacher to have students listen to them rather than encourage students to produce language or engage in dialogues. In other words, comprehension tends to be valued over the production of language in Japanese FL classrooms. Despite this rigid tendency, FL teachers need to be aware of the mediational role that languaging plays in L2 learning (Swain, 2006a, 2010; Swain & Watanabe, 2013), and consider providing students with the opportunity to verbalize their thoughts whether working in pairs or independently, whether engaging in speaking or writing-focused language tasks, and whether producing them in the L1 or L2. Many students in the present research reported that verbalization indeed facilitated their writing process. It is possible that more exposure to verbalization activities may enhance students’ successful use of language as a meditational tool to advance their L2 learning.
8.3. Limitations and future research

The present study had several limitations worth addressing in future research. First, this study was conducted within a short time frame (i.e., two writing tasks over only two weeks, each task of only 30 minutes duration). Therefore, it remains unclear how collaborative and independent writing contribute to the improvement of writing skills over the long run. For the same reason, I was unable to investigate whether, and how, the processes of collaborative and independent writing changed over time, and how these changes might affect language or writing development. It would be worth conducting future research to trace the longitudinal effects and change of collaborative and independent writing along the lines of Shehadeh (2011).

The second limitation is associated with speech for self. In order to facilitate the analysis of LREs and scaffolding episodes, I encouraged the participants to produce private speech while writing independently. Although 13 students stated that it was either conducive to or did not influence their writing, seven claimed that it was somewhat distracting. Thus, there is a possibility that speech for self while writing negatively affected the quality of the students’ written texts. Diaz (1992) suggested that adults seldom produce private speech possibly due to task anxiety, rather than lack of reliance on language as a mediational tool of thought. In this regard, it is possible that my encouragement for private speech production and the recording might have changed students’ behaviour during the writing tasks.

Third, although I am aware of the importance of non-verbal assistance, such as using gestures or facial expressions, to support learners’ writing process as scaffolding tools (e.g., Lee, 2008; McCafferty, 2002), I only audio-recorded students’ verbalization as they wrote essays. This decision was due to the concern that video-recording may raise participants’ consciousness that they were being recorded. Therefore, any possible non-verbal scaffolding during the collaborative writing and independent writing processes was not documented.
Future research may usefully include analyses of non-verbal assistance perhaps by video-taping for a long period of time so that participants may get used to the recording.

Fourth, the composing time I allocated (30 minutes) for both writing tasks may have been too short to produce effective written texts or talk and think extensively, which might have affected the quality of texts in an undesirable way. This decision followed time conditions for the TOEFL independent writing task, whose writing prompt I used for this study. In my study, the students needed to negotiate with each other's ideas during collaborative writing, and the individual learners were encouraged to produce speech for self while writing. It is possible that these additional activities (i.e., talking aloud while writing), dissimilar to the conditions for TOEFL independent writing, required extra time. In fact, the majority of the participants stated in their post-task interview that they felt 30 minutes was not enough time to create an adequate text under either writing condition. Previous research with verbal protocols has also observed that tasks which require verbalization tend to demand longer task completion time than those that do not (Bowles, 2010; Ericsson & Simon, 1993).

Furthermore, while I purposely set the same writing time for both collaborative and independent writing to control the effects of different time on task in each writing context, imposing the time on task resulted in ignoring individual differences in pairs. For example, a participant in Watanabe (2004) who also wrote a TOEFL writing topic spent 36 minutes completing it with one partner, while spending 74 minutes with another partner, illuminating how different pairs write differently depending on their interactional pattern (see also Watanabe, 2008). It would be interesting, in future studies, to investigate how imposing a time limit versus no time limit affects the quality of texts and the writing process in collaborative writing.

Finally, this study involved only a small number (20 students) of Japanese university English learners, so the findings cannot be generalized to other student populations or
learning contexts. This constraint also derives from the diverse contextual variables influencing the nature of L2 collaborative interaction, such as cultural differences among the learners (e.g., Nelson & Carson, 1998), learners’ level of target language proficiency (Watanabe, 2008; Watanabe & Swain, 2007, 2008); individual motives and goals (Storch, 2001b), and patterns of pair interaction (Storch, 2002; Watanabe, 2008).

Previous research on collaborative writing has primarily involved adult students of ESL (Storch, 1999, 2005; Storch & Wigglesworth, 2007; Watanabe, 2008; Watanabe & Swain, 2007, 2008; Wigglesworth & Storch, 2009), and a few adult EFL learners (Nixon, 2007; Shehadeh, 2011). Although the present study satisfied the call for more research in FL classrooms (Manchón, 2009a, 2009b; Ortega, 2009), studies exploring other age groups such as adolescent or young learners, as well as in various school settings involving high school, language school, or tutoring are noticeably needed (see but Swain & Lapkin, 2001, 2002 for adolescent French immersion studies).

Furthermore, students’ proficiency in the target language is also an important question that warrants further investigation. Shehadeh (2011) found that unlike the participants in studies by Storch and her colleagues (Storch, 2005; Storch & Wigglesworth, 2007; Wigglesworth & Storch, 2009), his participants did not improve the accuracy of their writing after 12 weeks of collaborative writing. He speculated that this may be explained by participants’ initial proficiency level. While Storch and her colleagues’ participants were advanced-level ESL students, his participants were low proficiency EFL learners. Various related questions arise. Does this mean writing in pairs is not an effective method to improve grammatical accuracy of the students with low levels of language proficiency? What are the correlations between learners’ proficiency levels and the degree of improvement of writing accuracy, complexity, and fluency through writing collaboratively? It would be rewarding to conduct research encompassing different age populations in the diverse learning contexts with
a range of proficiency levels. Future studies addressing these queries may enrich our understanding of the nature and effects of collaborative and independent L2 writing, as well as the roles of languaging and peer assistance in L2 learning.
References


Appendix A

Pre-task questionnaire (Original is in Japanese)

1. Name
2. Age
3. Gender
4. Degree program
5. Where were you born? If not Japan, how long ago did you arrive in Japan?
6. What is your mother tongue?
7. Which language(s) do you speak other than your mother tongue and English? Why are you familiar with these language(s)?
   Language:  e.g.) Chinese  Why are you familiar?: e.g.) took a course last year
8. Have you spent any sustained time in English-speaking countries? If yes, in what countries, how long and why did you stay?
   Country: e.g.) Canada  Period:  e.g.) 1 year (age 17)  Purpose(s): e.g.) study abroad
9. How long have you been studying English?  ___  years
10. Please tell me about your English learning experiences

<table>
<thead>
<tr>
<th></th>
<th>At school</th>
<th>Outside of school (e.g., tutor, cram school)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-elementary</td>
<td>year</td>
<td>e.g., tutor; once a week for 1 hour; 1 year</td>
</tr>
<tr>
<td>Elementary</td>
<td>year</td>
<td></td>
</tr>
<tr>
<td>Junior high</td>
<td>year</td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>year</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>year</td>
<td></td>
</tr>
</tbody>
</table>
11. How many hours of English classes are you currently taking each week in university?

__hours

12. If you have taken the TOEFL, TOEIC or Eiken (a standardized English proficiency test in Japan) what is your most recent score, and when did you take it?

13. Why do you study English?

14. What is your goal in studying English?

15. Please describe your motivation level for studying English, using 10 being highly motivated and 0 being not motivated at all.

16. Please describe your motivation level for Writing I class, using 10 being highly motivated and 0 being not motivated at all.

17. Please rate your English proficiency in the following categories, using 10 being highly proficient and 0 being not proficient at all.

<table>
<thead>
<tr>
<th>Rate</th>
<th>Any comments?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking</td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td></td>
</tr>
<tr>
<td>Grammar</td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
</tr>
</tbody>
</table>

18. Do you think you are a good writer in the following language? Evaluate using 10 being very good and 0 being very bad.

Everyday Japanese: Academic Japanese:
Everyday English: Academic English:

19. Do you like writing in the following language? Evaluate using 10 being very good and 0 being very bad.

Everyday Japanese: Academic Japanese:
Everyday English: Academic English:
20. What kind of writing do you do in the following language? How many hours per week do you write the following?

<table>
<thead>
<tr>
<th>Language</th>
<th>Essay</th>
<th>Lecture notes</th>
<th>Email</th>
<th>Text message</th>
<th>Facebook</th>
<th>Letter</th>
<th>Diary</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
</tr>
<tr>
<td>English</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
<td>min</td>
</tr>
</tbody>
</table>

21. What kind of pair work in the English classroom have you experienced? Was it helpful?

   Class: *e.g.*) Reading   Pair work: *e.g.*) brainstorming   Helpful? *e.g.*) Yes

22. What do you like or what are the advantages of pair work in the English classroom? Why?

23. What do you dislike or what are the disadvantages of pair work? Why?

24. What is your goal in working with your peer partner in pair work?

25. Which do you prefer, pair work or working individually? Why?

26. What factors do you think are important for effective pair work?

27. What do you think of using Japanese during pair work?

28. What do you think of using English during pair work?

Thank you very much for your cooperation!
Appendix B

Writing prompts

Writing Prompt A
If you could meet a famous entertainer or athlete, who would that be, and why? Use specific reasons and examples to support your choice.

Writing Prompt B
If you could travel back in time to meet a famous person from history, what person would you like to meet? Use specific reasons and examples to support your choice.

taken from writing topics of the TOEFL (ETS, n. d.)
Appendix C

Instructions for writing tasks [Original is in Japanese]

1) Instructions for a collaborative writing task

Now I would like the two of you to work together to write one essay based on a writing topic that I will give you in a second. You can use the scratch paper on the desk and your dictionary if you want to. But you can only use one dictionary between the two of you. You have 30 minutes to write. I will leave the recorder here and will be sitting over there (back of the room). If you encounter any problems during the session, just ask me. Do you have any questions? Here is the writing topic.

2) Instructions for an independent writing task

Now I would like you to write an essay based on a writing topic that I will give you in a second. You can use the scratch paper on the desk and your dictionary if you want to. When you write alone at home, do you talk to yourself sometimes? I do. Today, I encourage you to talk to yourself while writing, which is why I have a recorder here. However, if it interferes with your writing, you don’t have to talk aloud. Do you think you might feel more comfortable writing alone? If so I will wait for you outside. Do you have any questions? Here is the writing topic.
Appendix D

Stimulated recall questions (Original is in Japanese)

- Could you tell me in detail what you did while you wrote this essay? For example, how did you start?
- Up to that point, were there any aspects you struggled with?
- Were you able to solve the problem?
- How did you solve it?
Appendix E

Post-task interview questions (Original is in Japanese)

1) Have you done a similar activity of writing in pairs before?
2) What did you think about writing in pairs?
3) Do you think the pair work went well? Why? Why not?
4) What were some of the things you liked about writing in pairs?
5) What were some of the things you did not like about writing in pairs?
6) Do you have any comments on a pair partner you worked with?
7) What do you think you contributed to the pair work?
8) What do you think your partner contributed to the pair work?
9) How did you solve problems when writing in pairs?
10) How did you solve problems when writing alone?
11) You made use of a dictionary/writing a note/ while writing alone. Why? How?
12) Did you talk out loud to yourself while writing alone? Why? Why not?
13) Was talking out loud helpful? In which way?
14) What would you do normally when you write? Talk out loud to yourself? In which language?
15) What were some of the things you liked about writing alone?
16) What were some of the things you did not like about writing alone?
17) Which task better helped you to write – in pairs or alone?
18) Would you like to write in pairs again as a classroom activity?
19) Do you have any comments about being audio-taped?
20) Do you have any other comments?
Appendix F

Example coding of LREs, TREs and SEs

Nami & Sho: Collaborative writing

<table>
<thead>
<tr>
<th>Line</th>
<th>Speaker</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>428</td>
<td>Sho</td>
<td>I think we need to start a conclusion here.</td>
</tr>
<tr>
<td>429</td>
<td>Nami</td>
<td>Okay.</td>
</tr>
<tr>
<td>430</td>
<td>Sho</td>
<td>In the conclusion, -sion?</td>
</tr>
<tr>
<td>431</td>
<td>Nami</td>
<td>Yes, s-i-o-n,</td>
</tr>
<tr>
<td>432</td>
<td>Sho</td>
<td>We want to know</td>
</tr>
<tr>
<td>433</td>
<td>Nami</td>
<td>We want to know …</td>
</tr>
<tr>
<td>434</td>
<td>Sho</td>
<td>Why don’t we use a different expression?</td>
</tr>
<tr>
<td>435</td>
<td>Nami</td>
<td>Yeah ... How about we’d like to?</td>
</tr>
</tbody>
</table>

First step: Coding LREs

- Lines 430-431: Mechanics
- Lines 434-435: Lexis

Second step: Coding TREs

- Lines 428-429: Organization

Third step: Coding SEs

- Line 428: Suggesting
- Line 430: Questioning
- Lines 432-433: Repetition
- Line 434: Suggesting
- Line 435: Suggesting
Appendix G

Transcription conventions

*italics* Utterances originally produced in Japanese and translated into English by the author

[ ] Words or phrases that were omitted from the speech or clarification of the information unclear to the reader (i.e., transcriber’s commentary)

… Short pause, between 0.5 – 3 seconds

<5> Longer pause. Number indicates the time of the pause in seconds <5> and minutes <5:00>

- Incomplete utterance

= Latching or no gap between two turns

*underlining* Overlapped speech

? High rising intonation, not necessarily at the end of a sentence

“ ” A speaker is reading a written text/utterance read from a written text

w-o-r-d Spelling out a word/words

*bold* Emphasis/Especially loud sounds

xxx Unintelligible word/words

crossed-out The sentence that was ‘languaged’ but discarded as it was unsolved

Adapted from Watanabe (2004, 2008)
Appendix H

Sample compositions

Nami & Sho: Collaborative writing (Prompt A)

The Athlete Whom We Want to See

If we could meet a famous athlete, we would choose Ichiro Suzuki. He is a MLB (Major League Baseball) player. He is the most famous athlete in Japan. There are three reasons why we want to see him: his celebrity, his maxim and our aspiration for knowing his lifestyle in America.

First, he is very familiar with Japanese people for his achievements. For example, he accomplished making 200 hits in the season for eleven years in a row. It made people encouraged so much. Therefore Ichiro is the most well-known player in Japan.

Second, he expressed his feelings and ideas as maxims which are inserted in the magazines and books. They stimulate and impress many people. So we want to hear what he thinks.

Finally, the lifestyle which he spent was changed drastically, but he got over that. Thus we want to know how to deal with the problems like
In the conclusion, we'd like to know more closely about three things: his celebrity, his marine and his lifestyle. We Japanese really respect him. If we have an opportunity to meet him, we want to talk to him and get his autograph.
A Historical Person I Want To See

If I could travel back in time, I’d like to meet Murasaki Shikibu who is the author of Genji Monogatari. There are three reasons why I want to see her; to know how they lived in the Heian era, what did she think about Genji Monogatari and how she became smart.

First, I hope to know the life style of nobles in those days. I think the old life is very different from the contemporary one. I’m interested in the life which isn’t similar to mine.

Second, I want to know how did she feel when her literary work became successful. As many Japanese know it, Genji Monogatari was the
fashion in Heian era. Then, the work made her famous. I'd like to know what becoming well-known is like.

Third, I want to know how to be smart. She was so smart than she studied Chinese writing. As I'm a student, I hope to be smarter.

So, to know the old life style, her opinion and the way to be smart, I'd like to meet Murasaki Shikibu, if possible.
Sho: Independent writing (Prompt B)

If I could meet the historical, famous person...

If I could travel back in time to meet a famous person from history, I would want to see Iwakura Tomomi in Meiji era. He strived to recover the relationship between Japan and foreign countries and resolve the treaty which it was disadvantageous for Japan. He went abroad to do these. So I have two questions to him about the life in abroad.

First, if I could ask him, I would want to know about the communication with foreigners. I think Japanese couldn’t speak Japanese at all. Thus it must have been difficult to talk to the people who live in another country. Therefore I want to know how they got over this problem.

Next, I also want to know how they got accustomed to the foreign cultures. Because people in Meiji period still had the strong costern. In addition, another countries such as America and Europe was more advanced than our country Japan. Therefore I assume that it
was very hard to adapt those cultures. I also want to know how they dealt with it.

To sum up, I would ask these two questions of him if I could meet him. I respect him because though his effort didn’t make fruits, it is sure that they could communicate with them with all lacking of the knowledge about English in that era. I wish I could hear his experiences in other countries.