

## The effects of L1 and L2 group discussions on L2 reading comprehension

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### Abstract

The aim of this study was to explore the effects of post-reading group discussions in both first (L1) and second (L2) languages on L2 reading comprehension. The participants were fifteen Japanese university students of intermediate-level English. Three cohorts read four English texts and produced individual written recalls. Group 1 (the control group) responded in writing without discussion; group 2 discussed the texts in their L2 (English) before producing written recalls, and group 3 discussed the texts in their L1 (Japanese) before writing their recalls. The findings show that participants in the L1 discussion group used a larger number of higher-order processing and reading strategies than did those in the other two groups, suggesting that L1 group discussions have a positive effect on learners' reading comprehension. The authors make recommendations for teachers to use bilingual teaching strategies and to encourage the strategic use of the L1 in the L2 classroom.

**Keywords:** reading comprehension, code switching, group discussion, first language, second language, bilingual reading

The argument concerning first language (L1) use in the second language (L2) classroom has long been prevalent in research on second language acquisition (SLA). Researchers have argued that, because the L1 is ever present in the learner's mind and frequently accessed throughout the L2 learning process, there is no valid reason why teachers and learners should avoid code switching in the L2 classroom (Cook, 2001; Macaro, 2001). This is not an entirely new argument. Auerbach (1993) refers to emergent research illustrating the benefits of using the L1 in English as a second language (ESL) classrooms and implies that insistence on English only in the classroom is a form of "linguicism" (p. 11). Macaro (2001) also refers to earlier publications which advocate the use of the L1 in the L2 classroom. Research suggests that strategic use of the L1 facilitates the learning of new L2 vocabulary (Liu, 2008) and grammar (Demir, 2012), provides learners with self confidence (Phakiti, 2006), lowers affective filters (Meyer, 2008), works to ease stress and anxiety levels (Levine, 2003) whilst offering a sense of security (Schweers, 1999), and makes up for learners' limitations in the process of L2 learning (Corder,

1981).

Whilst some scholars refer to code switching as a deliberate language choice made by bilinguals, researchers in the field of SLA and language learning have used the term in reference to the use of more than one language in the learning process. Nilep (2006) takes both concepts into account, defining code switching as “either bilingual speakers’ or language learners’ cognitive linguistic abilities, or [...] classroom or learner practices involving the use of more than one language” (p. 1). We use the term *code switching* throughout this paper to refer to the practice of using more than one language in a single conversation or communicative exchange, be it in speech or writing. We acknowledge that there are multiple reasons for code switching, whether in the form of natural everyday use by bilinguals and multilinguals or in the L2 classroom. Everyday code switching has various functions, including for communication (Macaro, 2014), to signal identity within a social group (Auer, 2005), or to redefine a communicative interaction (Myers-Scotton & Ury, 1977). Classroom code switching can be used as a learning strategy to promote learning and language acquisition and to negotiate meaning (Cheng, 2013). Much research on classroom code switching is descriptive, often legitimising existing practices and revealing the practicality of such strategies (Lin, 2013). Few studies have been interventionist in nature or have experimented with, or recommended, innovative methods to improve classroom code switching practices.

This paper draws on elements of sociocultural theory (Vygotsky, 1978), together with Swain’s (2006) notion of *linguaging*, to examine the participants’ mediating of cognitively complex reading processes through the use of language. *Linguaging*, according to Swain (2006), refers to “the process of making meaning and shaping knowledge and experience through language” (p. 98) which “serves to mediate cognition” (p. 96) through the acts of speaking and writing. Swain and Lapkin (2011) claim that “speaking and writing are themselves language production activities that mediate remembering, attending, and other aspects of higher mental functioning” (p. 105). Vygotsky (1978) points out that the acts of speaking and writing both complete and transform an individual’s thoughts. A learner’s higher cognitive processes are developed through interaction between individuals and their social world through the mediation of language. Thus, linguaging in sociocultural theory involves not only a means of communication, but also plays “critical roles in creating, transforming, and augmenting higher mental processes” (Swain & Lapkin, 2011, p. 106). Smagorinsky (1998) suggests that “the process of rendering thinking into speech is not simply a matter of memory retrieval, but a process through which thinking reaches a new level of articulation” (pp. 172–173). We believe that speaking (linguaging or verbalising thoughts) in their L1 enables learners to engage in higher levels of cognitive activity than would be possible if they were engaging in such linguaging in an L2 in which they were less competent. This paper reports on a study that compared the effects of L1 and L2 post-reading group discussions on L2 reading comprehension.

## Literature Review

### *L1 use in L2 reading and in classrooms*

Lucas and Katz (1994) suggest that the commonly held arguments against L1 use in L2 learning are grounded in a multitude of perspectives including “legal, political, theoretical, research-based,

social, humanitarian, and commonsensical” ones (p. 538). Prevailing teaching approaches tend to affect whether teachers view the L1 as useful or not in the L2 learning process. Direct teaching methods were born on the premise that lessons should be “conducted exclusively in the target language” (Richards & Rodgers, 2014, p. 12). Communicative Language Teaching (CLT) and other methods such as Presentation, Practice, Production (PPP), which are still in use in L2 teaching worldwide, tend to buy into the ‘target language only’ policy in the classroom (also see Barnard & McLellan, 2014). One of the shortcomings of the older Grammar Translation Method was that learners were unable to develop communicative competence in the target language (TL) solely through translation activities into the L1, which led to uneasiness towards L1 use in L2 learning (Karimian & Mohammadi, 2015). This uneasiness resulted in the L1 often being tacitly ignored (if not explicitly prohibited) in many L2 classrooms. Levine (2013) refers to the ‘monolingual bias’ noticed by various practitioners and researchers in L2 classrooms and the fact that, even if the L1 is allowed in the L2 classroom, teacher training textbooks and classroom teaching materials invariably continue to follow this bias. The basic premise that one learns the TL best by communicating in that language, and that one’s native language serves as a barrier to the success of TL acquisition has often overshadowed the potential role of the L1 in facilitating L2 learning (see also Nation, 2003). As Cook stated in 2001, “the pressure from this mostly unacknowledged anti-L1 attitude has prevented language teaching from looking rationally at ways in which the L1 can be involved in the classroom” (p. 410).

The use of the L1 in the L2 classroom has been shown to encourage task inclusion and solidarity building between participants and to help create a secure and comfortable learning environment (Khan, 2015). Researchers have investigated the specific benefits of L1 use in L2 reading. Macaro’s (2009) study into the reactions of 32 first-year university Chinese learners of English as a foreign language (EFL) to teacher code switching found that providing L1 translations of problematic lexical items can lighten students’ cognitive load and free up processing capacity during reading comprehension. Villamil and De Guerrero (1996) list five strategies employed by Spanish ESL college students reading collaboratively in the L2 classroom, three of which involved the use of the L1. For the majority of these learners, “the L1 was an essential tool for making meaning of text, retrieving language from memory, exploring and expanding content, guiding their action through the task, and maintaining dialogue” (p. 60).

Seng and Hashim’s (2006) study of tertiary ESL learners’ use of the L1 in a think-aloud L2 reading comprehension task shows that whilst reading in the L2 learners will think about the text in their L1 and use it to facilitate comprehension of the L2. This can, in turn, result in improved comprehension, decreased stress levels, and increased confidence in one’s own reading ability (Phakiti, 2006). Sweetnam Evans and Lee (2014) report on a study of 14 upper-intermediate Korean undergraduate students’ code switching processes. They argue that L1 code switching enhanced comprehension for the bilingual readers and lightened their cognitive load in difficult tasks. Jiménez, García, and Pearson (1996), investigating the bilingual reading strategies of 14 sixth and seventh grade Latina and Latino students of mixed English reading abilities, found that particularly those learners classed as ‘successful readers’ employed bilingual reading strategies involving the L1 such as searching for L1 cognates and translating unknown lexical items.

### *Collaborative group discussions*

Collaborative groups are known to be effective in creating student-centered classrooms which help to promote peer interaction and encourage higher-level strategy use (i.e., the use of critical, creative, reflective, logical, and metacognitive thinking skills used to overcome difficult or unfamiliar problems). The collective contributions of learners within a group can often exceed the achievements of individuals, allowing learners to scaffold one another to complete the task at hand. Collaborative group work in the L2 classroom environment provides learners with both the necessary input and the opportunities for output required for effective L2 acquisition and encourages learners' active involvement in the learning process. Scaffolding is enhanced when learners are able to utilize their L1 during collaborative group discussions. Antón and Dicañilla (1999) found that the L1 scaffolded the collaborative talk of 10 adult learners of beginner-level Spanish, allowing knowledge to move between learners as they each contributed different skills and expertise to the task overall. Utilizing the L1 during group discussions provides learners with mutual scaffolding that leads to the completion of a task. It allows learners to use both their L1 and their L2 to facilitate learning and complete tasks, with the L1 serving as "the initial channel of understanding so that accurate communication in the second language (is) consequently possible" (McGroarty, 1989, p. 134).

Collaborative groups also play a beneficial role in facilitating reading comprehension. Discussion groups serve as a type of comprehension monitoring in the reading process, providing learners with the same benefits as re-reading (Gorsuch & Taguchi, 2008), and allowing for learners to pool their background knowledge as they negotiate and socially construct meaning. Klingner, Vaughn, Arguelles, Hughes, and Leftwich (2004) found that L2 students involved in collaborative reading showed significantly greater gains and ability in their comprehension of the texts than did those who did not engage in collaboration with their peers. Group discussions have been shown to promote learners' engagement with texts and help to facilitate overall learning and textual comprehension (Finlay & Faulkner, 2005). Some researchers (see, for example, Hunt, 1996) suggest that many texts are dialogic in nature. In other words, "[r]eaders feel a need to discuss certain types of texts once they have read them" (Sweetnam Evans, 2002, p. 69). The reason for this appears to be due to readers' interest in the texts. This is the case for texts requiring information-driven and story-driven reading (see discussion below), which spark the readers' interest through events and information (Morgan & Seilner, 1980) to which readers respond affectively, and also to texts requiring point-driven, literary reading to which readers respond aesthetically (Hunt, 1996).

### *Reading comprehension*

An essential principle in reading theories is that meaning is a feature of interaction between the text and reader rather than something that can be extracted from a text. Reading is considered a dynamic process in which a reader interacts with a text, combining linguistic, conceptual and experiential knowledge with incoming textual information to construct meaning (Kintsch, 2005). Reading comprehension occurs when the reader has successfully built a coherent, mental representation (Kintsch, 1974, 1977; Kintsch & van Dijk, 1978) which is constructed through the interaction of new information with pre-existing memory structures (Grabe, 2009; Zwaan & Madden, 2004) and is continuously updated both during and after the reading process.

A tri-partite theory of text representation describes mental representations as having the levels of surface structure, textbase, and situation model (Graesser, 2007; Koda, 2005; van Dijk & Kintsch, 1983). The surface structure, also known as the surface code, contains the exact wording and syntax of a given text. The textbase is the overall gist of a text in small, meaningful elements which Kintsch (1974, 1977) refers to as *propositions*. The situation model represents the events, actions, characters, and situations in a text (van Dijk & Kintsch, 1983) and is a particularly important element in the comprehension of narrative texts. In order to construct their own mental representations of a given text, readers use a combination of cognitive processes including both bottom-up and top-down reading strategies. Bottom-up processing primarily involves the decoding of textual features, whereas top-down processing involves readers using their own background knowledge and applying this to the text. Readers actively connect textual information and background knowledge as they make predictions, develop expectations, and confirm or reject these while they progress through the text.

Successful readers pay attention to textual genre. Research involving the material-appropriate processing framework (see Einstein, McDaniel, Owen, & Coté, 1990) suggests that readers engage with, process, and comprehend various texts differently according to their knowledge of, and expectations for, specific text genres (also see Zwaan, 1994). A relatively early branch of reading research, which we believe is still valid, was predicated on the notion that readers adopt different stances towards texts: point-driven, information-driven, and story-driven (Vipond & Hunt, 1984). In point-driven (and particularly, but not only, literary) reading, the reader considers the point the writer is making; in information-driven reading, the reader aims to extract relevant knowledge and learn from available content; and in the story-driven reading of narrative texts, readers are immersed in the plot and focus on characters, settings, events and causal connections (Vipond & Hunt, 1984).

### *L2 reading*

There are some differences between L1 and L2 reading. Developing L2 readers are sometimes classified as being inefficient, functioning like novices (Koda, 2005). They are thought to use a large number of bottom-up (text-driven) skills to construct literal meaning (Nassaji, 2002), rather than activating relevant background knowledge to make inferences about the text through top-down (reader-based) processing skills. They may engage in a great deal of mental translation, adding additional costs to their cognitive process (Grabe, 2009) and may be more likely to produce relatively unstructured mental representations of texts during the L2 reading process because they focus on the decoding of individual words within the textbase rather than on making necessary inferences and higher-order connections to relevant background knowledge to construct meaning and overall coherence.

Although L2 readers sometimes attempt to monitor their own comprehension levels, this happens less frequently than in L1 reading (Bensoussan, 1998) and is carried out relatively inefficiently (Han & Stevenson, 2008). Bernhardt (1991) suggests that L2 readers do not go back to confirm or disconfirm inferences they have made, nor do they question the decisions they have made in relation to incoming textual information. In other words, it is often held that L2 learners do not always access their existing higher order L1 reading strategies efficiently (Walter, 2007).

Past studies have suggested that learners demonstrate a greater comprehension of L2 texts when they can use their dominant language to produce written protocols. Although Bernhardt (1983) had learners write their recalls of L2 texts in their L1, she did not investigate how this may have affected their recalls overall. J. F. Lee (1986) found that university-level Spanish foreign language (FL) readers were able to demonstrate a greater understanding of the Spanish texts when permitted to write in their native language, English. More recently, Sweetnam Evans and H-R. Lee (2014) found that learners used more L1 than L2 in free written recalls of texts read in the L2 and tended to use mainly their L1 for more cognitively-demanding tasks such as commenting on texts, while using some L2 only for less cognitively-demanding tasks such as recalling textual information.

## Methodology

The present study aims to explore the effects of post-reading L1 and L2 group discussions on L2 reading comprehension, and to determine whether or not L1 group discussions provide learners with a deeper understanding of L2 text genres. To do so, the following research questions were investigated:

- 1.) In what ways do L2 group discussions facilitate L2 reading comprehension?
- 2.) In what ways do L1 group discussions facilitate L2 reading comprehension?
- 3.) What effects do L1 group discussions have on the comprehension and awareness of text genres in L2 reading?

## *Participants*

The present study involved fifteen (M=8, F=7) Japanese L1 undergraduates studying an intensive English course at a language school under the auspices of a New Zealand university. All of the participants were in their early twenties with similar levels of L2 English proficiency (IELTS level 5). These participants were selected because of their shared native language, their similar levels of English proficiency, and their shared status as students of the same course. All agreed to participate in the project voluntarily.

## *Materials*

The task involved four texts (see Appendix A): a poem about hot weather by Peter Davison (Text 1, 88), a modern parody of the story Little Red Riding Hood (Text 2, 606) which deals with issues of sexism and feminism, a joke (Text 3, 53) involving a word-play in the punch-line, and an expository article (Text 4, 910) on the custom in some cultures of eating insects. The parentheses following these texts show how the texts are referenced in this paper and the total number of words in each text. The four texts were selected for the range of genres and levels of difficulty they represent, for the opportunities they each provide for discussion, and for the likelihood that they would elicit different reading stances (story-driven, information-driven, or point-driven) from the bilingual readers (see Vipond & Hunt, 1984).

### *Procedure*

The participants were randomly divided into three equal size groups of five. All three groups read the same four L2 texts in the same order. Participants in group 1 (the control group) read the texts and responded to them individually in writing without discussion. Participants in group 2 read the texts and discussed them afterwards using only their L2 (English) before responding individually in writing. Participants in group 3 read the texts and discussed them afterwards using only their L1 (Japanese) before responding individually in writing. No time limit was placed on either the reading or recall processes. Few instructions or directions were given to the participants to avoid influencing their comprehension strategies. They were instructed only to read the texts, discuss them according to the nature of their group (i.e., in L1 or L2), and to respond in writing with recalls of what they could remember about the texts and to provide any additional comments they had. The participants were not given access to the texts during the written recall period.

As per their instructions, the participants in groups 2 and 3 did not often engage in code switching during their group discussions, although in a few instances they used English words from the texts in their Japanese discussions and other isolated words in English. The participants from all groups were free to write in either Japanese or English and were thus provided with the opportunity to engage in written code switching if they chose to do so. They were free to create their own meanings and interpretations for each text and their recalls and responses could therefore be considered undirected and uninfluenced by the researchers.

### *Analysis*

The Japanese sections of the recalls and responses were translated into English by the researcher and checked by a bilingual peer. The participants' comprehension of each of the four texts was examined on the basis of their written text recalls and responses. The transcripts of the group discussions were also scrutinized. The participants' written recalls and additional response comments were analysed in combination. This was done to avoid the introduction of extra variables into the data. The focus of the present study was not on whether participants treated simple recalls differently from other comments about the text, but rather to determine whether their recalls and responses were indicative of successful comprehension and the application of successful reading strategies. The separate cues (i.e., recalls and response comments) were used to encourage participants to think and write more about the texts so as to elicit more data on the basis of which to analyse their overall comprehension levels. The group discussions themselves were not included as part of the quantitative data measuring participants' overall comprehension of the texts, as these discussions were intended purely as opportunities for the participants in groups 2 and 3 to scaffold one another and increase their understanding of the texts as a group. Some of the comments made in the discussions, however, were included in the qualitative findings.

The recalls and responses were coded according to a set of conventional reading strategies used in successful comprehension, which was compiled on the basis of the reading theories mentioned in the literature review (see Appendices B and C). These strategies included mention of the constituent elements involved in situation model and textbase construction. The recalls and

responses were coded to determine how many participants per group mentioned each conventional reading strategy and narrative, plot or textbase element in their written recalls. For example, in Appendix B six elements are identified under the top-down processing category, and three under the bottom-up processing category. When one of these elements was identified in the participants' recalls of each text, it was understood that the participant had engaged in either top-down or bottom-up processing, depending on to which category the element belonged. The extent to which the participants from each group engaged in these cognitive processes was determined based on how many of them, and how often they, included the elements in their text recalls. The coding was cross-checked by the researcher's academic supervisor.

Texts 1 (a poem), 2 (a short story), and 3 (a joke), all include elements of narrative and the participants' recalls of these texts were analysed to determine whether they had constructed situation models (see Appendix B) of the texts in accordance with the Event-Indexing Model framework (Zwaan, Langston & Grasser, 1995). The Event-Indexing Model recognises that readers construct situation models while reading narratives and that these situation models are constituted by character(s), their perspectives, intentions, plans and actions, spatio-temporal setting(s), situations, events, and causality (which refers to causal links made between textual features and the events).

Participants' comprehension of text 4 (an expository text) was analysed using a framework (see Appendix C) based on Kintsch's (1988) Construction-Integration Model and on Meyer's (1975) Structural Analysis: a hierarchical organisation model that classifies idea units into levels, with the main ideas of the text at the top level, and the finer, more detailed ideas at the bottom level. This includes elements such as the 'text summary,' which indicates whether or not participants are able to provide a general overview of the article as a whole, 'macro-propositions,' which indicate the participants' ability to outline the main issues and topics raised in the text (top level of the hierarchy), and 'micro-propositions,' which indicate comprehension of less prominent sub-topics (bottom level of the hierarchy). It also concerns the sequencing of ideas, which involves a reader's ability to record the ideas presented in the text in order of appearance, as determined by Meyer's (1975) outline of the overall surface structure.

## Findings

The data analysis provides answers to the first two research questions: "In what ways do L2 group discussions facilitate L2 reading comprehension?" and "In what ways do L1 group discussions facilitate L2 reading comprehension?". Group discussions in general, and L1 discussions in particular, had significant effects on the participants' L2 reading comprehension, as evidenced by the differences in the comprehension of all four texts by the participants in group 1 compared to those in groups 2 and 3. Participants in group 3 discussed the texts for a longer period of time than did participants in group 2 (see Table 1). The ability to talk freely in their L1 without being constrained by limited competence in the L2 perhaps led the participants in group 3 to have discussions that lasted longer and used more words per text, indicating the benefits of L1 discussion groups on L2 reading comprehension. There is a suggestion that the more the participants discussed the texts the more languaging they engaged in and the more they facilitated their own comprehension of the texts.



Table 1. *Approximate time duration of group discussions for groups 2 and 3 across all four texts*

Text	Group 2 (L2 discussion)	Group 3 (L1 discussion)
Text 1 (Poem, 88)	0:04:15	0:05:25
Text 2 (Narrative, 606)	0:03:45	0:05:30
Text 3 (Joke, 53)	0:01:10	0:05:35
Text 4 (Article, 910)	0:02:45	0:05:20
Total	0:11:55	0:21:50

The participants in group 3, who discussed the texts in their L1, not only spoke for a longer period but also produced more utterances about the texts (see Table 2).

Table 2. *Total amount of discussion words per group across all four texts*

Text	Group 2 (L2 discussion)	Group 3 (L1 discussion)
Text 1 (Poem, 88)	289	714
Text 2 (Narrative, 606)	211	731
Text 3 (Joke, 53)	152	772
Text 4 (Article, 910)	158	820
Words in total	810	3037
Average words per person	162	607

The participants in group 3 discussed the texts in greater detail and dealt with topics not touched on by the participants in groups 1 and 2. For example, during the discussion of text 2 (narrative), participants in group 3 engaged in a socio-psychological discussion concerning the role of the wolf:

P14: Kono tokoro... **‘but because his outsider status had freed him from following the rules’**, kore, makuro soshioroji? Ōkami no **outsider status** ga hoka no hito ni omowareru koto ni yotte.

*This part here, ‘but because his outsider status had freed him from following the rules’, is this macro-sociology? His outsider status depends on what others think about the wolf.*

P13: Mawari no kankyō ga kare wo kimeteiru kara...  
*Because the surrounding environment determines him.*

P14: Sō! Jibun ni jissai ni ugoiteiru yō ni omotta toshite mo, igai to kō iu kankyō ni boku tachi wa nanka kisei sareteiru.

*Yeah! So even if you think you’re moving by yourself, we are unexpectedly regulated by our environment.*

P13: Un, seigen saretari keisei saretari shiteru tte koto dayo ne.  
*Yeah, so we’re restricted and shaped.*

It is likely that the freedom to discuss the texts in their L1 without the restriction of limited L2

proficiency enabled the participants in group 3 to discuss relatively complex topics (such as the socio-psychological role of the wolf), that the participants in group 2 did not.

Table 3 shows the total number of mentions of specific discourse features per group for each text in the written recalls. The average number of times in which the participants commented on specific conventional textual features or gave evidence of successful reading comprehension strategies was relatively consistent across all three groups for all four texts.

Table 3. *Total number of constituent elements and reading comprehension strategies mentioned in written text recalls across all four texts*

Text	Group 1 (no discussion)	Group 2 (L2 discussion)	Group 3 (L1 discussion)
Text 1 (Poem, 88)	26/100 (26%)	38/100 (38%)	52/100 (52%)
Text 2 (Narrative, 606)	28/100 (28%)	41/100 (41%)	55/100 (55%)
Text 3 (Joke, 53)	28/100 (28%)	38/100 (38%)	55/100 (55%)
Text 4 (Article, 910)	15/60 (25%)	29/60 (48%)	39/60 (65%)
Average percentage	27%	41%	57%

Overall, participants in group 1 (the control group) mentioned 27% of the reading comprehension strategies and relevant constituent elements identified by the researchers across all four texts in their written recalls, with group 2 slightly higher at 41%, and group 3 the highest at 57% suggesting the greatest engagement with all four texts as a whole and, we posit, the greatest comprehension.

The participants in groups 2 and 3 mentioned more of the constituent elements in narrative situation model construction, plot structure, and textbase construction, provided greater evidence of knowledge and use of successful comprehension strategies, and provided more detail and insight into each of the texts (including comments on the conventional textual elements in both narrative and expository texts). This suggests that collaborative group discussions in general played a role in facilitating reading comprehension for these participants. The written recalls provided by participants in group 3, who discussed the texts in their L1, indicate the highest comprehension overall, as determined by the type of information that participants recalled for each text and the level of detail in which they responded. It was only in group 3 that participants speculated in their recalls about possible meanings in the form of rhetorical questions about the texts, indicating a type of comprehension monitoring. For example:

- P11: Demo nani kara nigereru tame?  
*But what is he running away from?* (text 1, group 3)
- P12: **Black humour** na no ka, sinpuru ni jyōkyō setsumei no **text** na no ka.  
*Was it black humour? Or was it a text simply explaining a situation?* (text 3, group 3)
- P14: *Even though our ancestors ate them normally, I wonder if people of the coming generations can accept insects as food?* (text 4, group 3)

The participants in group 3, who discussed the texts in their L1, showed the ability to monitor

their own comprehension and engage in meta-cognition about the reading process with written recall comments such as:

- P13: Kantan ni kaiyaku dekiru you ni omotta no daga, jissai ni wa saigo no sentensu no tokoro de iken ga wakareta. Watashi ga omou no wa, “eibun no dokkai ni hitotsu no seikai ga aru no ka” to iu koto de aru?  
*I thought I could easily interpret the words, but in actuality my opinion changed on the final sentence. I wonder if there is one correct answer in understanding English literature?*  
 (text 3, group 3)
- P11: Watashi no kaiyaku ni yotte **the waiter** no hatsugen no ito ga kawarisou.  
*Depending on my interpretation, it seems like the intention of **the waiter**'s remark would change.* (text 3, group 3)

Participants in group 3 were also the only participants to make frequent autobiographical connections with the texts, seen in recall comments such as:

- P12: *I know that in other countries people eat insects, for example in China and Africa, but I can't - it's impossible for me to eat insects!* (text 4, group 3)
- P11: Shokubunka wa takoku kara kanshō sareru beki de nai to sainen no hogeï mondai wo omoïdashi kanjita.  
*In recalling the recent whaling problem, I felt that food culture should not be influenced by other countries.* (text 4, group 3)

They also considered intertextual references in their recalls:

- P13: *It's not really in this text, but in something else I've read before it said (...)* (text 4, group 3)

The participants in group 1 (the control group) and group 2 did not provide evidence of such higher-order processing, suggesting that participants in group 3 had the greatest comprehension of the texts overall, or at least engaged with the texts more substantially than the other readers did.

Participants in groups 2 and 3 produced longer written recalls and responses with higher word counts than did participants in group 1 who did not engage in discussion about the texts (see Table 4 below). This, coupled with their more detailed written recalls, greater duration of group discussions, and a greater number of words spoken for each of the four texts, further points to the benefits of L1 discussion groups on L2 reading comprehension.

Table 4. Total amount of written recall words per group across all four texts

Text	Group 1 (no discussion)	Group 2 (L2 discussion)	Group 3 (L1 discussion)
Text 1 (Poem, 88)	80	176	179
Text 2 (Narrative, 606)	231	182	325
Text 3 (Joke, 53)	133	178	186
Text 4 (Article, 910)	129	147	182
Words in total	573	683	872
Average words per person	114	136	174

Participants in group 3 discussed and recalled more detail about the topics of the texts than did the participants in groups 1 and 2. For example, participants produced detailed micro-propositions for the insect-eating article, with recall comments such as:

- P14: Kekkyoku, shoku ni kyōtsū no sutandaato nado naku, dore ga kimochi warukute dore ga futsū na no ka wa kuni ni yotte kotonaru mono da to kakareteita.  
*In the end, it's not that there is a common standard in food. It says that what is gross and what is normal is something that varies depending on the country.* (text 4, group 3)

More simple macro-propositions were produced by participants in groups 1 and 2:

- P5: *Eating insects is common in the world.* (text 4, group 1)
- P6: Hoka no kuni de wa mushi wo taberu! Kōrogi, batta, shiroari nado.  
*People eat insects in other countries! Crickets, grasshoppers, termites, etc.* (text 4, group 2)

The analysis of the data provided answers to the the third research question too, namely, “What effects do L1 discussions have on the comprehension and awareness of text genres in L2 reading?”. Participants in all three groups made remarks about the texts’ genre. There was an increase per group in the number of participants who referred to the genre of each text in some form or another in their text recalls (see Table 5).

Table 5. Total number of participants who mentioned textual genre in their written recalls

Text	Group 1 (no discussion)	Group 2 (L2 discussion)	Group 3 (L1 discussion)
Text 1 (Poem, 88)	2/5	2/5	3/5
Text 2 (Narrative, 606)	2/5	2/5	4/5
Text 3 (Joke, 53)	1/5	2/5	1/5
Text 4 (Article, 910)	1/5	2/5	2/5
Average percent overall	30%	40%	50%

Participants in group 3 showed the most awareness of textual genre across all four texts, with 50% of the participants mentioning genre; 20% more than in group 1 and 10% more than in group 2. These comments were in the form of comprehension-monitoring questions and

reflections indicating uncertainty. For example:

P2: *I wondered it is something like a poem?* (text 1, group 1).

P6: *Sounds like a kind of joke about grind or ground, but still I have no idea.* (text 3, group 2).

Many comments on text 2 (narrative) referred to the text as a story and included a number of specific narrative features, such as the following recall comment from a participant in group 2, which incorporates elements of character, plot, resolution, causal links, and the chronological presentation of events all in one:

P8: Saigo teki ni akazukin chan to obaasan wo sukū hazu no kikori ga jiryoku de ōkami kara detekita obaasan ni yotte korosareta. Soshite akazukin to obaasan to ōkami wa shiawase ni mori de kurasu.  
*At the end of the story, the woodcutter who was supposed to help Red Riding Hood and Grandma, was killed by the Grandma who came out from the wolf. Red Riding Hood, the wolf, and Grandma lived happily together in the forest.* (text 2, group 2)

Participants in group 3 showed evidence of recognising the genre of each text and of drawing on their own background knowledge of the constituent features of conventional types of discourse. For example, participants connected the feature of rhyming with poetry:

P11: Saisho no 3 gyō hodo wa owari ga in wo fundeiru yō na ki ga shite, shi wo yondeiru kanji ga shita.  
*I thought that the ending of about the first 3 lines rhymed, so I felt like I was reading a poem.* (text 1, group 3)

Participants in group 3 also attempted to authenticate the information in the expository text—a skill that separates the reading of fact from the reading of fiction—with recall comments such as:

P12: Nihon de mushi wo taberu?  
*Do we eat insects in Japan?* (text 4, group 3)

That these strategies were not displayed by participants in groups 1 (the control group) and group 2 suggests that L1 group discussions played a role in their employment, which advocates for the benefits of L1 group discussions on L2 text genre comprehension.

## Discussion

The aim of the present study was to explore the effects of post-reading group discussions in both the L1 and L2 on L2 reading comprehension. Overall, group discussions were shown to facilitate L2 reading comprehension, with a positive correlation shown between L1 group discussions and a greater understanding of the L2 texts. The recalls of the first three texts by participants in group 1 (the control group), who did not engage in any classroom discussions, were limited to comments about the surface structure (see Kintsch, 1988; Meyer, 1975). That few causal

connections were recorded between these elements suggests that the participants' understanding of the texts was disjointed. Furthermore, a lack of evidence that relevant background knowledge was activated or that autobiographical connections were made indicates the participants in group 1 were not accessing their existing L1 reading skills. The participants in the control group, who did not engage in any discussion, showed few signs of comprehension of text 4, or of the relationship between the macro-propositions and the micro-propositions in the text. A relatively low level of comprehension for all four texts was apparent overall for the participants in group 1.

The participants in group 2 who discussed the texts in their L2, on the other hand, not only mentioned the same basic textual features and reading conventions in their written recalls and responses as those participants in group 1 did but recorded them in greater detail, suggesting benefits to group discussion in general. The group 2 participants who discussed the texts in their L2 showed signs of using higher-order processing skills that were not used by participants in group 1, such as attempting to look beyond the surface level of the text and mentioning causal links and character intention. Their comments were not, however, detailed, suggesting only a partial understanding. Unlike the comments of the participants in group 1 (the control group), who did not engage in discussion, the comments of the participants in group 2 who discussed the texts in their L2, illustrated extended comprehension of text 4 with recalls of the less prominent textual micro-propositions (see Kintsch, 1988), and exhibited the participants' ability to order and link textual elements and read for coherence.

The participants in group 3 who discussed the texts in their L1 provided the same basic information that the participants in groups 1 and 2 did in their written recalls but in far greater detail, using top-down processing skills apparently not used by the other two groups and including mention of elements such as character and authorial intention, which Zwaan et al. (1995) propose are the "focal points of situation models" (p. 292). They also displayed evidence of having engaged F-emotions, A-emotions (Kneepkens & Zwaan, 1995) and P-responses (Allbritton & Gerrig, 1991), indicating their ability to empathise with the characters, have preferences for the outcomes of events, make causal connections, and respond aesthetically to stylistic choices. They exhibited signs of cognitive processing not revealed by the participants in groups 1 (the control group) and group 2, such as questioning elements of the text, commenting on linguistic structures, and translating problematic words and phrases – an important bilingual reading strategy (Jiménez, García & Pearson, 1996). The participants in group 3 who discussed the texts in their L1 engaged in both bottom-up and top-down processing. They were the only group to question the reliability of the textual information in text 4 – an important convention that distinguishes the reading of fact from fiction (see Schmidt & Groeben, 1989).

## Conclusion

Despite historically negative views towards the use of learners' L1 in L2 learning and teaching, the present study provides some evidence for the benefits of L1 group discussions to aid L2 reading and comprehension. The participants who discussed the texts in their L1 not only recalled the most textual elements and features across all four texts but also produced recalls with the most words, discussed the broadest range of topics, recalled more detailed micro-propositions, and had the greatest genre awareness.

As already mentioned, some researchers have claimed that L2 readers are not as efficient at reading as L1 readers are, that they do not use effective top-down processing skills, and may have difficulty accessing their existing higher order L1 reading strategies. It has also been claimed that L2 readers may not activate relevant background knowledge to make inferences about the text through top-down processing (Carrell, 1983), but instead “rely more on the textual linguistic data and their L2 linguistic competence to extract meaning from text” (Nassaji, 2002, p. 463). However, the present study has shown that discussing L2 texts in the L1 facilitates the accessing of higher-level L1 reading skills by L2 readers. These bilingual readers then develop more detailed situation models and textbases of L2 texts, essential to the process of comprehension. Bilingual readers who discuss L2 texts in their L1 also show a marked ability to use a greater number of higher-order processing strategies in L2 reading comprehension, including a combination of both top-down and bottom-up processing skills. It is likely that the greater fluency with which discussions can be held in the L1 and the possible sense of enhanced confidence, allowed the participants in group 3 to discuss the texts in greater depth than they would have if they had been discussing them in their L2 using vocabulary and grammatical structures to which they might not yet have access in their L2 interlanguages. Through the use of languaging (see Swain, 2006), the participants who discussed the texts in their L1 were able to negotiate the cognitively-complex processes required for comprehension of the texts and were able to scaffold one another and themselves by accessing their L1 reading comprehension strategies.

We are mindful that the present study employed only a small cohort of participants and broad conclusions cannot be drawn as a result. Further research is required to determine the extent to which L1 group discussions affect L2 reading comprehension in general. Future studies on a larger scale might produce more generalizable results. They might also use participants with different proficiency levels to determine the extent to which proficiency plays a role in the use of the L1 in activities such as group discussions in reading comprehension. They may also have learners alternate among groups, removing the possible variation that individual participants in the L1 and L2 discussion groups were simply more proficient readers.

While it has been suggested that the degree to which language learners rely on their L1 may be related to their proficiency level in the TL (Upton, 1997), it is conversely argued that the “use of students' linguistic resources can be beneficial at all levels of ESL” (Auerbach, 1993, p. 1). It is possible that the use of the L1 would benefit students at all levels of L2 proficiency as was shown for intermediate ESL learners in this study.

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## Appendix A

### *Texts Used*

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## Appendix B

*Table used to determine engagement with the conventional discourse features of narrative texts and strategies used for successful reading comprehension of texts 1, 2, and 3*

<b>TEXT 1</b>	<b>Group 1</b>	<b>Group 2</b>	<b>Group 3</b>
<b>Constituent elements of the textbase:</b>			
1. Macro-propositions			
2. Micro-propositions			
<b>Constituent elements of the situation model:</b>			
3. Character			
4. Setting			
5. Causality (causal links)			
6. Events and situations			
7. Character actions			
8. Character intentions and perspective			
<b>Constituent elements of the plot:</b>			
9. Problem			
10. Climax			
11. Resolution			
<b>Top-down processing including:</b>			
12. Evidence of P-responses			
13. Evidence of F-Emotions			
14. Inferences beyond the surface level			
15. Autobiographical links			
16. Speculation about meaning in the form of questions			
17. Genre comprehension			
<b>Bottom-up processing including:</b>			
18. Evidence of A-Emotions (craft of author recognised)			
19. Questioning of text structure			
20. Linguistic analysis			
<b>Total frequency of features and reading conventions mentioned</b>	<b>/100</b>	<b>/100</b>	<b>/100</b>

## Appendix C

*Table used to determine participants' engagement with the conventional discourse features of expository texts and strategies used for successful reading comprehension of text 4*

<b>TEXT 4</b>	<b>Group 1</b>	<b>Group 2</b>	<b>Group 3</b>
<b>Elements of the text structure:</b>			
<b>1. Text summary</b>			
<b>2. Macro-propositions</b>			
<b>3. Micro-propositions</b>			
<b>Top-down processing including:</b>			
<b>4. Ordering of ideas</b>			
<b>5. Linking of ideas</b>			
<b>6. Connections beyond the surface level</b>			
<b>7. Autobiographical links</b>			
<b>8. Speculation about meaning in the form of questions</b>			
<b>9. Genre comprehension</b>			
<b>Bottom-up processing including:</b>			
<b>10. Recalling the wording of the text</b>			
<b>11. Comments on text structure</b>			
<b>12. Linguistic analysis</b>			
<b>Total frequency of features and reading conventions mentioned</b>	<b>/60</b>	<b>/60</b>	<b>/60</b>

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