

Relationships of L1 and L2 Reading and Writing Skills

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Relationships of L1 and L2 Reading and Writing Skills

Introduction

Influenced by the first language (L1) research on reading-writing relationships, recent English language education has highlighted the connection between these two literacy skills, as writing textbooks with readings have been actively published (see for example, Hartman & Blass, 1999; Pavilik & Segal, 2002). The assumption underlying this approach is that cognitive knowledge is shared by domains of reading and writing (Fitzgerald & Shanahan, 2000). This shared cognitive domain was also hypothesized to function as a basic competence from which literacy skills in distinct languages stem in the interdependence hypothesis advocated by Cummins (1994). This transferability of skills across languages has been reported in various studies on reading in first and second languages (L2). In the field of L2 reading research, Clarke (1980) introduced the short circuit hypothesis, which argued that the transfer of reading skills from first to second language can be restricted by limited L2 language proficiency which has not reached the threshold level at which the transfer begins to occur. Regarding this intervention of language proficiency, Alderson (1984) posed a question whether poor L2 reading skills were due to poor L1 reading skills or due to low L2 language proficiency. Carrell (1991) examined this issue, and found both L1 reading skills and language proficiency were critical elements to predict L2 reading skills. Other studies have yielded similar results to Carrell (1991), and concluded that L2 language proficiency was the stronger predictor of L2 reading skills.

Meanwhile, L2 writing research on the transferability of the skills across languages has remained inconclusive. Nevertheless, according to Grabe (2001), the transferability of L2 writing skills is also determined by the L2 threshold level. He pointed out that this notion of the L2 threshold level was versatile in L2 writing as well. Moreover, theoretically, the transferability of writing skills could be supported by

Flower and Hayes's (1981) cognitive process theory of writing when combined with the interdependence hypothesis (Cummins, 1994). The authors described a process of writing in terms of the cognitive functions, and because writing is a cognitive process, this skill could be shared across different languages based on Cummins (1994). Edelsky (1982) provided empirical evidence of this shared domain. Other studies have revealed that the transfer of writing skills across languages is more difficult compared to that of reading skills. Carson, Carrell, Silberstein, Kroll, and Kuehn (1990) investigated the reading-writing relationships in L1 and L2. The participants of the research were Japanese and Chinese learners of English, and the researchers observed a weak or no correlations between L1 and L2 writing skills, although the results varied according to the language groups. In this research, the authors failed to consider an integral aspect of Japanese learners, which is past experience of formal writing instruction in L1. Many Japanese students do not learn how to write academic texts at school even in Japanese, including the tertiary level (Okabe, 2004). This lack of training in L1 writing indicates the lack of 'cognitive/academic proficiency' which is shared across languages in the interdependent hypothesis (Cummins, 2005, p. 4). Therefore, assumingly, Japanese students have rarely acquired L1 academic writing skills to transfer to another language. Furthermore, Carson et al. (1990) did not investigate the participants' L1 and L2 reading habits and experiences of writing instruction, which could possibly affect the formation of L2 writing skills as Krashen (1984) argued that writing ability is influenced by both reading for pleasure and instruction.

Therefore, in order to further understand the L1 and L2 reading and writing relationships, Japanese learners of English were surveyed in this study in consideration of the theory advocated by Krashen (1984) to expand the study conducted by Carson et al. (1990). Japanese undergraduate students were involved in this study, participating

in a questionnaire and L1 and L2 reading and writing assessments. Selected students also cooperated in interviews.

Purpose of the Research

The purpose of this study was to investigate “the relationships between literacy skills across languages” (Carson et al., 1999, p. 248), and to investigate the relationships of reading and writing skills across modalities in each language. A further subsidiary aim was to learn about the factors contributing to the development of L2 writing skills.

Research Questions

This study consisted of two sets of research questions. The first four questions duplicate the past literature in order to verify the results of the studies in the Japanese context. The last question further analyzed the factors which influence writing skills in L2.

1. What is the relationship between reading skills in first and second language?
2. What is the relationship between writing skills in first and second language?
3. What is the relationship between reading and writing skills in the first language?
4. What is the relationship between reading and writing skills in the second language?
5. How might L2 language proficiency, time spent reading for pleasure and reading academic texts in L1 and L2, experiences in L1 and L2 composition instruction, L2 reading skills, and L1 writing skills, affect L2 writing skills?

Significance of the Study

The present study is unique on the point that time spent reading for pleasure and reading academic texts as well as experiences of formal writing instruction in both first and second languages were examined in addition to reading and writing assessments. The results of this research could be helpful to English teachers and

language learners. Implication of the results of this research include the possibilities that options of teaching and learning materials might be expanded. Information of the significance of first language literacy skills and volume of inputs from readings upon the development of L2 writing could provide implications concerning types of teaching materials. Also, the research results could help language learners find the aspects of their writing skills they should improve on, and the strategies to develop their writing skills. In the field of writing research, the relationship between L1 and L2 writing skills has remained unclear; thus, the current research might deepen the understanding of L2 writing skills through considering the variables specific to Japanese learners of English.

Ethical considerations

Participation in the research was voluntary, and those who agreed to be involved in this project were asked to sign an informed consent form. Confidentiality was protected through eliminating the student number after all the assessments and questionnaire were collected and matched.

Review of Literature

Introduction

Eisterhold (1997) argued that adult learners differed from younger language learners in that adult learners have already developed literacy skills in their first language (L1). Thus, when considering the literacy of adult second language (L2) learners, there are four aspects of skills which are interrelated, namely, L1 reading skills, L1 writing skills, L2 reading skills, and L2 writing skills. The relationships among these elements are controlled by one faculty: cognitive function. Therefore, this research focused on the cognitive perspective, though both cognitive and sociocultural approaches have been popular in second language research (Kobayashi and Rinnert, 2008). Referring to cognitive-based theories, the current paper will review four types of literature: on the relationship between L1 and L2 reading skills, L1 and L2 writing

skills, the relationship between L1 reading and writing skills and L2 reading and writing skills.

Cognitive Functions

Reading and writing skills are distinct in a way that the former is a receptive skill and the latter is a productive skill. Nevertheless, multiple domains in cognitive functions are assumed to be shared by both skills. Fitzgerald and Shanahan (2000) introduced four types of knowledge which overlap in the domains of reading and writing:

1. Metaknowledge: knowing how and why reading and writing are used, being aware of audience, and monitoring for comprehending and produced language.
2. Domain knowledge about substance and content: knowledge of vocabulary and varied meaning of vocabulary according to the context.
3. Knowledge about universal text attributes: graphophonics (i.e. sound-letter connection), syntax, and text format (e.g. expository writing).
4. Procedural knowledge and skill to negotiate reading and writing: how to retrieve knowledge from memory and the capacity of active thinking such as anticipating and questioning.

In addition to the shared domains across modalities, the relationship of reading and writing skills across languages should be considered. The prominent theory of the field is the interdependence hypothesis advocated by Cummins (1994). In this hypothesis, Cummins (2005) argued that there is “cognitive/academic proficiency” (p. 4) which was open to learned or acquired languages regardless of various differences of the languages. The five categories of transferable elements were introduced:

1. Conceptual elements: understanding concepts.
2. Metacognitive and metalinguistic strategies: strategies used to facilitate language learning.

3. Pragmatic aspects of language use: attitudes for communication or abilities to facilitate communication in L2.
4. Specific linguistic elements: knowledge of concept which word parts convey (e.g. prefix).
5. Phonological awareness : knowing that different sounds constitute a word.

Depending on the similarity of the languages, the transferable elements vary. According to Cummins (2005), the conceptual and cognitive elements can be transferred across dissimilar languages. If the conceptual element is shared across languages, notions comprehended in one language should be applicable to the same or similar concepts a learner encounters in another language. Accordingly, the more concepts a learner has acquired and the more vocabulary to appropriately address these concepts in one language, the more likely the learner might expand the vocabulary in another language. This language to express abstract concepts is essential in order to be a proficient writer as Krashen (1984) argued.

Although this conceptual element is limited to Fitzgerald and Shanahan's (2000) *domain knowledge about substances and content*, Cummins (1994) maintained that the instruction of reading and writing in one language nurtures not only linguistic skills in the language but also the fundamental cognitive/academic proficiency which was literacy-related skills. Viewed in this light, once a learner has acquired the literacy-related knowledge in one language, which is procedural knowledge and skill to negotiate reading and writing (Fitzgerald and Shanahan, 2000), this knowledge should be available to the learner no matter what language the learner uses, although whether the learner is able to utilize the knowledge depends on language proficiency (Cummins, 1985 as cited in Roller, 1988).

Reading

Carrell (1989) considered the level of reading strategy use of participants with different reading and L2 language proficiencies. The author investigated the relationships of reading skills and metacognitive awareness on L1 and L2 reading, comparing proficient and poor readers. Metacognitive awareness contains local and global reading strategies (Carrell, 1989). While proficient readers utilized the global reading strategies, poor readers depended on the local reading strategies. Also, the author found that the higher L2 language proficiency was, the higher the level of the strategies employed. Questionnaires were administered and the categorization of the questions is the following:

1. Confidence: abilities to predict content, discriminate main and subordinate points, question the validity of the author's argument, utilize background schemata, and assess the reader's own understanding of the text.
2. Repair: strategies for addressing reading difficulties (i.e. continuing reading for further explanation, rereading the part causing problem, rereading the part prior to the problem area, and using a dictionary, and quitting).
3. Effective: strategies for enhancing efficiency of reading (i.e. pronouncing word parts to self, comprehending individual words, pronouncing individual words, understanding text holistically, concentrating on syntax, drawing on schemata related to the topic, using a dictionary, concentrating on the specific information in the text, concentrating on the text organization).
3. Difficulties: impediments of reading process (i.e. words' sounds, pronunciation of each word, identification of words, syntax, the alphabet, connection of background knowledge and the topic, holistic understanding of the text, and a text organization).
4. Perception of a proficient reader: students' observation of behaviors a proficient reader utilizes. (i.e. identifying individual words, pronouncing words,

comprehending the text holistically, utilizing a dictionary, estimating the meaning of words, concentrating of the specific information in the text, and comprehending the text organization).

Moreover, Clarke (1980) investigated the transferability of reading skills in relation to L2 language proficiency. He presented the short circuit hypothesis which indicated that there might be an influence of L2 proficiency level on the transferability of reading skills from L1 to L2. According to this hypothesis, in order for L1 reading skills to have an influence on L2 reading skills, the reader needs to reach a certain level of L2 proficiency: a threshold level. In his influential study, L1 and L2 reading skills of native-Spanish speaking students learning English were investigated. In L1, proficient readers could understand the text semantically while poor readers relied on syntactic information. However, in L2, the difference between effective and poor L1 readers decreased. Their limited L2 proficiency short-circuited the transfer of their L1 reading behaviors to L2 reading behaviors. This result supports Clarke's (1980) argument that there is a threshold level of L2 proficiency in order for L1 reading skills to be transferred to L2 reading skills.

Represented by Clarke (1980), group of scholars argued that limited L2 proficiency was the cause of poor reading skills while others argued that poor L1 reading skills were the cause of poor L2 reading skills. Considering this situation, Alderson (1984) questioned whether ineffective L2 reading skills were the problems of a language or reading skills. His extensive review of literature on the relationships of L1 and L2 reading skills confirmed Clarke's (1980) theory. Further, two studies reexamined this question of whether L2 reading is a "reading problem or language problem" (Alderson, 1984). Carrell (1991) surveyed the effects of L1 reading skills and L2 proficiency level on L2 reading skills. The participants of the study were 45 Spanish speakers, ranging from the intermediate to beyond the advanced level students, and 75 English speakers,

ranging from the beginning to the advanced level students. The investigator found that both L2 proficiency level and L1 reading skills were the significant predictive factors, and concluded that neither factor could be neglected to estimate L2 reading skills. In a similar study conducted by Bernhardt and Kamil (1995), 186 English speakers learning Spanish at the beginning to advanced level were examined. Their study yielded the same result that both L1 reading skills and L2 proficiency were the predictors of L2 reading skills, but they also found that L2 proficiency was the stronger predictor of L2 reading skills, and this finding is indicative of the existence of the threshold level. Lee and Schallert (1997) also reported the same result on the relationships among L1 and L2 reading skills and L2 proficiency when they tested Korean secondary school students. The investigators identified the threshold level by changing the grouping of students.

Although Lee and Schallert (1997) were able to locate the threshold level, this level cannot be determined clearly because the threshold level fluctuates according to the complexity of the task and text and individual differences. Clarke (1980) noted that “the threshold level is liable to vary from task to task and from reader to reader” (p. 714). This influence of task complexity was exemplified in the study by Taillerfer (1996), who attempted to deepen the insight of the short circuit hypothesis by adding the complexity of the reading task as another variable. He incorporated scanning as an easier cognitive task and reading comprehension as a higher order cognitive task. The participants were 53 French college students learning English at the higher and lower levels. The outcome was that both L2 proficiency and L1 reading skills were influential in L2 reading skills, and L2 proficiency was a significantly stronger predictor than L1 reading skills as other research had showed. On the other hand, L2 scanning relied solely on L1 scanning ability. Therefore, the more difficult the task was, the more likely the L2 proficiency limited the transfer. Moreover, Fecteau (1999) incorporated different types of reading tasks, namely inferential and literal comprehension, as variables instead of complexity

of tasks. He studied whether the degree of inferring the underlying intention of the author and understanding literally would differ when reading in L1 and L2. Forty-two students at an American university studying French at the advanced level were involved, but the researcher could only obtain the L2 proficiency score of 24 students. Although data were limited, results revealed that L2 proficiency did not predict the L2 reading skills. Also, no clear differences were found between literal and inferential comprehension of the texts.

In addition, the threshold level cannot be determined by achievement tests or the level of language class the subjects are enrolled in. This was indicated in the study conducted by Pichette, Segalowitz, and Connors (2003), who carried out a longitudinal survey on 52 Bosnians learning French at the high intermediate to advanced levels. Two tests were administered over a one-year span. In the first session, neither L1 reading skills or L2 proficiency were significant predictors for the higher achievement in the L2 reading task while the L2 language proficiency was the stronger predictor for the lower achievement in the L2 reading task. However, in the second session, which was implemented one year later, L1 reading skills were found to be the significant predictor of higher L2 reading score. This result suggests that the achievement level did not indicate whether or not the subjects reached the threshold level.

Writing

Unlike various studies in L2 reading which support the short circuit hypothesis (Clarke, 1980), the outcomes of writing research have not indicated clear trends. However, according to Grabe (2001), some studies (cf. Johns and Mayes, 1990; Carrell and Conner, 1991; and Sasaki and Hirose, 1996) suggested that the threshold level argued in the short circuit hypothesis was applicable to L2 writing skills. Thus, in order for L2 writers to exercise their L1 writing skills in second language, a certain amount of L2 knowledge is required.

Moreover, an act of writing is assumed to follow similar steps in cognition even across languages. Though the effect of language difference was not addressed in their study, Cummins (1994) interdependence hypothesis lends support to the interlingual transfer of cognitive process of writing described by Flower and Hayes (1981). In the cognitive process theory of writing hypothesis advocated by Flower and Hayes (1981), composing proceeds through the interaction of the task environment, writer's long-term memory, and writing process. The task environment includes assignments and the text under development. Considering this theory, the conditions of task environment and long-term memory seem to be universal across languages. According to the Flower and Hayes (1981), a writer goes through multiple cognitive processes at the same time as composing: planning, translating, and reviewing. These processes occur recursively, and any process can interrupt each other as the writer composes. What guides this complex writing process is, according to the theorists, a network of goals for writing. The authors' definition of a goal was versatile, including local goals such as a decision of the next move and global plan of the prose. Planning can be further categorized into generating ideas, organizing, and goal-setting, so the writer accesses long-term memory, organizes ideas, and decides subsequent actions. Then, translating is the process of transforming abstract ideas into written form, and Flower and Hayes (1981) noted that the writer might lose sight of a holistic view if the writer is distracted too much by mechanical issues. Lastly, reviewing consists of evaluating and revising. At this stage, the writer monitors his/ her progresses in writing.

Although his perspective is oriented to writing behaviors rather than cognitive process, Krashen (1984) maintained that the level of engagement in the composing processes differentiated poor and effective writers. The three writing processes pointed out by Krashen (1984) were planning, rescanning, and revising. In planning, an experienced writer spends more time on planning compared to a poor writer. Rescanning

is the characteristic of a proficient writer, and this process is to review the composition lest the writer deviates from the main objective and plan. Furthermore, the scope of revising is different for proficient and poor writers. Krashen (1984) indicated that effective writers first revised the prose in terms of overall message while poor writers confounded editing with revising.

Although the process of translating in the hypothesis of Flower and Hayes (1981) was not included in Krashen's (1984) comparison between effective and poor writers, he referred to this translating process in the discussion of reading and writing relationships. Adopting the terminology of Chomsky, Krashen (1984) distinguished writing *competence* and writing *performance*. The *competence* consists of a body of knowledge on language, or "code of written language" (p. 21), and an intuitive sense of reader-based prose. A massive amount of inputs from voluntary pleasure reading develops this writing *competence* according to Krashen (1984). Writing *performance*, on the other hand, is a set of proficient writing behaviors to transform the abstract knowledge into a written form, and *performance* is developed by the intervention of instruction. Effective writers have acquired both *competence* and *performance*. Meanwhile, Krashen (1984) argued that poor writers could be categorized into two types: blocked writers and remedial writers. Blocked writers are those who possess *competence*, but cannot exert full *competence* due to the lack of *performance*; whereas, remedial writers are those who lack both *competence* and *performance* (Krashen, 1984).

In application of this theory advocated by Krashen (1984) to second language writing, L2 language proficiency would appear as another impediment for expressing thoughts in written form. L2 language proficiency could be assumed to determine how skillfully the writer can communicate their intention to the reader during the translating process described by Flower and Hayes (1981). Thus, depending on the L2 proficiency level of the writer, there are three possible obstructions which could block

the idea the writer intends to convey: L1 *competence*, L2 *competence*, and *performance*. *Performance* was assumed to be unitary in cognition based on the interdependence hypothesis (Cummins, 1994) because *performance* is not superficial linguistic knowledge but a set of writing behaviors controlled by cognition at a deeper level (Cummins, 1994). However, if the interdependence hypothesis does not apply or the students have not reached the L2 threshold level, *performance* could be separated into L1 and L2 *performance*, and there could be four possible blocks for L2 writing.

Several studies empirically supported Flower and Hayes's (1981) theory. Victori (1999) compared L2 proficient writers and poor writers' metacognitive knowledge on L2 writing. The participants were four native speakers of Spanish learning English at a university. A writing assessment accompanied with a Think-aloud protocol, verbalizing thinking while writing, and interviews were included in the investigation. General questions were on students' perceptions of an effective piece of writing and writer, writing problems, and past experience of writing instructions. Specific questions were asked based on the behaviors the students showed when planning, composing, and revising. Codification of the responses followed the taxonomy developed by Flavell (1979, as in Victori, 1999), which consisted of person knowledge, task knowledge, and strategy knowledge. Person knowledge is the awareness of self and others as a writer. Task knowledge is the awareness of the functions and requirements in academic writing. Finally, strategy knowledge is the awareness of the strategies useful for certain writing tasks and the strategies the students employ. The researcher found that most metacognitive knowledge used were distinct between effective and poor writers. The proficient writers were more aware of their writing problems, and their knowledge of the requirements of writing tasks was broader and more accurate. Also, the findings on the strategy use was that the stronger writers were more rigorous and exertive throughout the writing processes. The effective writers reported that they would plan before writing,

revise the content even after completing the essay, and utilize dictionaries. In addition, the revising processes of the weaker and proficient writers fit into the theory of Krashen (1984): the weaker writers focused on language use and mechanics while the more successful writers focused on the organization and coherence of their compositions.

Hall (1990) concentrated on this revising process in L1 and L2. Although the respondents were native speakers of various languages, the investigator reported that the revising processes were very much alike in L1 and L2. The subjects were all advanced level students, and the researcher concluded that the proficient second language writers were able to use one system to revise the texts. Also, he indicated that this uniform capacity might have been developed in first language and transferred to L2 writing, supporting the interdependence hypothesis (Cummins, 1994). On the other hand, although Thorson (2000) also studied the revising processes in L1, English, and L2, German, her case studies revealed that different strategies were employed in each language. The observed transfer of L1 writing strategies to L2 was limited. Nevertheless, Uzawa (1996) found that both L1 and L2 writing were strikingly similar. She employed a Think-aloud protocol, and compared the writings in L1, Japanese, and L2, English, in addition to a translation task from L1 to L2. The scores of the writing assessments in both languages were comparable, and they were similar in terms of the writing processes, attention pattern, and sophistication of language use. The author mentioned that her participants used the what-next approach when writing in both languages. This finding is compatible with the hypothesis offered by Flower and Hayes (1981) in that a writer continuously generates goals as he/she composes.

Additionally, more detailed descriptions of transferable L1 writing skills can be found in the study conducted by Edelsky (1982), who carried out qualitative research on elementary school aged Spanish speakers learning English. She concluded that any aspect of writing could be transferred from L1 to L2 writing depending on the context.

In particular, a function of written texts and organizers are common between languages. Similarly, Kobayashi and Rinnert (2008) found their participants were able to transfer writing skills from L1 to L2. However, they also identified that L2 writing skills could not be applied to L1 writing. Japanese college freshmen participated in the research, and they were divided into groups which received composition instruction in L1 and L2, L1 only, L2 only, and no composition instruction. The scores in writing in both languages of the first two groups, who received both L1 and L2 instruction and L1 instruction only, were higher than the third group, L2 only, regardless of past formal composition instruction in L2.

Reading and Writing

Writing instruction was regarded as the critical factor to develop writing skills by Krashen (1984) as mentioned earlier. His argument over writing skills also included influences of inputs from extensive reading for pleasure. Following this theory, a number of studies on reading and writing relationships in L1 have been conducted. Stotsky (1984) reviewed these studies, and concluded that research results could be generalized to have confirmed Krashen's claim: there were interrelationships between achievement level in reading and writing.

However, the studies on the reading-writing relationship in L2 did not necessarily gain the same results as those of L1. The exploratory research by Flahive and Bailey (1993) employed a questionnaire to investigate reading time both in L1 and L2. Although L1 reading and writing skills were not assessed, grammar and writing style in L2 were incorporated as variables. Their results did not support Krashen's hypothesis in that the effective L2 readers in Flahive and Bailey (1993) were not automatically proficient in L2 writing or vice versa. The variable which correlated strongly with L2 writing was grammar, which suggests the intervention of limited L2 language proficiency.

Furthermore, L2 language proficiency was also found to be an influential factor in the study administered by Carrell and Conner (1991). The researchers investigated the effects of the following variables on L2 reading and writing skills of the participants: discourse types of reading and writing assessments, text genre, educational level, and L2 language proficiency level. The selected genres were persuasive and descriptive types, and the researchers found that both reading and writing assessments which included persuasive texts were more difficult than the assessments with descriptive texts. As a result, the researcher reported that the participants with higher L2 language proficiency performed significantly better than the participants with lower L2 proficiency when dealing with persuasive texts. However, when the students dealt with the assessments with descriptive texts, there was no significant difference in performance between the higher and lower L2 language proficiency groups.

While Carrell and Conner (1991) focused on L2 reading and writing skills, Carson, Carrell, Silberstein, Kroll, and Kuehn (1990) included L1 reading and writing skills in their research. Considering the persistent influence of L2 proficiency, Carson et al. (1990) questioned whether or not L2 proficiency affects the transfer across languages and modalities. The variables incorporated in this research were duration of residency in the U.S., L2 proficiency, L1 and L2 educational level, and L1 and L2 reading and writing assessments. The researchers compared two language groups, Japanese and Chinese, and the participants were quite different in terms of demographic backgrounds and L2 proficiency. The result showed that the outcomes were inconsistent between the two groups. Also, the authors could not identify whether discreteness of the results between the two groups was due to cultural differences, L2 educational level, or L2 proficiency level. Nonetheless, there were four results in common between the two groups. Firstly, reading skills were more easily transferable across languages compared to writing skills. Secondly, writing skills in L1 and L2 were not strongly correlated.

Thirdly, L1 writing skills were not the predictor of L2 writing skills while L1 reading skills were the predictor of L2 reading skills. Lastly, reading and writing skills in the first language were positively correlated.

Reading Assessments

These two studies conducted by Carrell and Conner (1991) and Carson et al. (1990) adopted different techniques to assess reading abilities of their participants. Carrell and Conner (1991) employed a multiple-choice style test and an immediate recall protocol while Carson et al. (1990) used a cloze test to assess reading skills of their participants. The recall protocol is a testing technique which examines the respondent's reading comprehension ability. In this assessment, participants read a short passage to themselves, and after returning the reading passage to the examiner, they write down everything they can recall from the text in first language (Bernhardt, 1983). Concerning a multiple-choice technique, although Hughes (1989) acknowledged that the high reliability in scoring is guaranteed in multiple choice tests, he also pointed out that the examinees could answer the questions only by guessing and recognizing words. On the other hand, Bernhardt (1983) maintained that a recall protocol was superior to the other testing techniques including a multiple-choice test and a cloze test to assess reading comprehension ability. She argued that a cloze test still suffered from the deficiency that examinees focus on connections of words, referring to grammatical rules.

Nevertheless, several disadvantages of recall protocol were pointed out. Alderson (2000) indicated that Meyer's (1975 as cited in Alderson, 2000) scoring system is time consuming. This system analyzes the text and stratifies the clauses in terms of their rhetorical functions carrying ideas of different levels of importance (Connor and Kaplan, 1986). However, the methodology suggested by Bernhardt (1991, as reported by Heinz, 2004) requires only 10 minutes to score each response. In this approach, the text is divided into idea units by segmenting the sentences into meaningful noun, verb, and

prepositional phrases. Then these idea units are awarded different scores based on the importance of the idea (Bernhardt, 1983). Furthermore, although Alderson (2000) noted that the recall protocol could be a test of memorization, he also suggested that assigning recall tasks right after reading without a long interval could reduce this problem. Lastly, the problem of producing recall in L2 was pointed out (Maarof, 1998, as cited in Heinz, 2004); however, allowing the participants to write in L1 can address this issue of L2 learners' limited ability to demonstrate their comprehension of the prose (Bernhardt, 1983).

Writing Assessments

In addition, the criteria for L2 writing evaluation used by Carson et al. (1990) were questioned. Although the scaling rubric was developed by Carson et al. (1990) for their research, Sasaki and Hirose (1999) argued that the rating criteria to assess the Japanese prose used in the Japanese educational setting is different from that of the English counterpart. Thus, the authors were suspicious whether the original rating scale developed by Carson et al. (1990) could address the perspectives of native-Japanese speaking raters. Because of this lack of comparable criteria between different languages, Sasaki and Hirose (1999) administered a questionnaire survey to identify the evaluation criteria for the Japanese expository composition, which was the most commonly implemented task in secondary schools. Based on the results of the survey, Sasaki and Hirose (1999) devised their rating scale for Japanese expository writing. An analytic scale was employed since a holistic scale assesses both writing skills and accuracy in language use inclusively while analytic scale can assess writing skills individually. Moreover, the authors reported that the reliability of the analytic scale was higher than other types of scales. They identified the following six criteria:

1. Clarity of the theme: The degree of clarity of presentation of the main theme, and of adequacy of supporting points.

2. Appeal to the readers: The degree of concreteness and persuasiveness of rationale, and of eliciting agreement from the readers.
3. Expression: The degree of coherence among ideas and cohesiveness in connecting sentences.
4. Organization: The degree of clarity in logic for the sequence of paragraphs.
5. Knowledge of language forms: The degree of accuracy in usage of punctuation, letters, and grammar.
6. Social awareness: The degree of effort to express self- and social awareness and relationships between self and society.

Nonetheless, the divergence of scores between these two scales was also found in the scores of 10 out of 69 writing samples. These 10 writing samples were scored much lower in Clarity of the theme, Appeal to the readers, and Social awareness according to the authors, and they indicated that these differences occurred because their scale was more effective in specifying the traits that are valued in Japanese composition instruction.

Sasaki and Hirose (1999) argued that their criteria and the ESL Composition Profile (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981) were comparable due to the fact that the ESL Composition Profile is also an analytic scale. Concerning the items included in both rating scales, the Japanese rating scale is different from the English counterpart in that social awareness is included, but these two share the majority of the criteria. The following are the criteria of the ESL Composition Profile:

1. Content: The degree of development of thesis and relevancy to the topic.
2. Organization: The degree of clarity of presentation of ideas, and of logic and cohesiveness in sequencing paragraphs.
3. Vocabulary: The degree of sophistication, range, and appropriateness of word use.

4. Language use: The degree of complexity of grammatical structures used, and of accuracy in grammar.
5. Mechanics: The degree of accuracy in spelling, punctuation, and paragraph structure.

The Current Study

Incorporating these rating schemes, the current study looked at the relationships of L1 and L2 reading and writing skills, following the scope of Carson et al. (1990). This preceding literature review provided support for the position which is based on the shared cognitive proficiency as Cummins (1994) claimed, but also showed that the degree of transferability across languages differs depending on the skills. Also, the shared knowledge across modality was confirmed by the research outcomes which suggested the relatively strong correlation between reading and writing in L1. Furthermore, both of these shared domains in L2 can be severely disturbed by L2 proficiency levels. Among the reviewed articles, when L2 was included, the common obstacle of research was identified to be the difficulties of maintaining the equivalent quality of measurements of both reading and writing skills. This was due to the lack of unitary instruments for scaling the literacy skills across languages. Meanwhile, there was a variable which was absent in some L2 reading and writing literature: time spent reading for pleasure in L1 and L2. Furthermore, since Krashen (1984) argued that pleasure reading provide input for writing, time spent reading L2 texts and reading the target genre of writing, academic writing, should be included in addition to L1 pleasure reading. The culmination of input through specific reading was assumed to generate different effects on writing output.

Concerning both reading and writing research, L2 reading research mostly resulted in similar conclusions. Generally, most reviewed authors agreed that L2 reading skills could be predicted by both L1 reading and L2 language proficiency. They

also accepted that the threshold level existed, but the threshold level changed according to the contexts. On the other hand, in the field of writing, although authors agreed that writing processes in L1 and L2 were similar, the transferability of L1 writing skills yielded different conclusions. Also, although processes of writing might be comparable across languages, equivalent levels of writing achievement in L1 cannot be expected to be transferred to L2 writing automatically. Furthermore, the interrelationships between L2 reading and writing skills were ambiguous compared to L1 research. Therefore, with the exception of the relationships of L1 and L2 reading skills and of L1 reading and writing skills, the transferability still remains unclear.

Moreover, although Carson et al. (1990) did not include L1 and L2 reading time and past experience of L1 and L2 instruction in their research, Krashen (1984) indicated that the input of reading and instruction develop writing skills. Accordingly, L1 and L2 reading time and experience of instruction were investigated because the current study targeted the two language skills in two different languages.

Method

The current study investigated the relationships of L1 and L2 reading and writing skills. The research questions were the following:

1. What is the relationship between L1 and L2 reading skills?
2. What is the relationship between L1 and L2 writing skills?
3. What is the relationship between L1 reading and writing skills?
4. What is the relationship between L2 reading and writing skills?
5. How might L2 writing skills be affected by the following variables: language proficiency in L2, time spent for reading academic texts and for pleasure in L1 and L2, experiences in L1 and L2 composition instructions, reading skills in L2, and writing skills in L1?

A mixed-method cross-sectional design was employed to investigate how L1 and L2 reading and writing skills were interrelated, and to understand whether and how the selected variables would affect the L2 writing skill. The research method consisted of L1 and L2 reading and writing assessments, a questionnaire to probe the students' reading habits and experiences of formal L1 and L2 composition instruction, and qualitative interviews to investigate students' metacognitive knowledge on reading and writing in L1 and L2.

Data Collection

Participants. The population of this study was undergraduate students at Soka University, which is a private university located in Western Tokyo. Established by a Buddhist organization, this university stands by the educational philosophy named Soka Education, which emphasizes the mission to foster “creative individuals”, “the individuals who ceaselessly struggle to achieve world peace...to protect the dignity of life” (translated by the author, Soka University, n.d.). Accordingly, for the actualization of their mission, the development of a sense of global citizenship in the students is of a primary importance. Because their school philosophy is unique, their conceptualization of global citizens should be clarified. Soka University (n.d.) defines global citizens as follows:

Global citizens are the individuals of wisdom, courage, and mercy. The courage to respect, appreciate, and learn from the racial, ethnic, and cultural differences. The mercy to sympathize and cooperate with people suffering in distant places. From this courage and mercy, wisdom would emerge without end. Soka University strives to be a cradle for the establishment of a new global culture based on the cooperation among the global citizens; in other words, creative individuals (translated by the author).

Based on this university philosophy, the World Language Center (WLC) also aims at fostering a sense of global citizenship in the students with a humanistic approach as a vehicle to attain their goal. In the field of language education, the humanistic approaches are the methods which embrace the following philosophies: “(a)

the development of human values, (b) growth in self-awareness and in the understanding of others, (c) sensitivity to human feelings and emotions, (d) active student involvement in learning and in the way learning takes place” (Richards, Platt, & Weber, 1985, p. 131). The WLC is the institution of the university where most of the English courses are taught, and the participants were drawn from the undergraduate students who enrolled in the English courses offered by this institution.

The English courses in the WLC are classified into basic, elementary, intermediate, upper intermediate, advanced, and advanced intensive levels based on TOEIC scores. Immediately after entering the university, freshmen are required to sit the TOEIC test. The students refer to this test score to select English courses at appropriate levels.

Table 1

Name, Level, and the TOEIC Scores of English Courses		
Level	Class name	TOEIC score
Elementary	EPE	240-380
Intermediate	EAP Intermediate	385-450
Advanced	PE Upper Intermediate	455-525
	PE Advanced	530-580

In consideration of logistical factors, the data were collected from four types of classes: (a) English Program Elementary (EPE), (b) English for Academic Purposes (EAP) Intermediate, (c) Professional English (PE) Upper Intermediate, and (d) Professional English Advanced. As Table 1 shows, these classes were categorized into three levels for comparative analysis. The levels were determined as follows: EPE was classified as elementary level (TOEIC 240-380), EAP Intermediate as intermediate

(TOEIC385-450), and PE Upper Intermediate and PE Advanced as advanced level (TOEIC 455-580).

From these courses, students were selected based on convenience and single stage sampling (Creswell, 2009). A range of L2 language proficiency levels was included because the students cannot be assumed to pass the threshold level only on the basis of scores of standardized tests. The threshold level is a point of L2 language proficiency level at which L1 reading skills start to affect L2 reading skills, and this level differs, depending on individuals and tasks (Clarke, 1980).

Table 2
Number of Students Participated in each
Assessment

	Questionnaire (n = 74)	L1 reading (n = 74)	L2 reading (n = 70)	L1 writing (n = 74)	L2 writing (n = 72)
Elementary	n = 15	n = 21	n = 17	n = 15	n = 14
Intermediate	n = 30	n = 25	n = 25	n = 31	n = 30
Advanced	n = 28	n = 28	n = 28	n = 28	n = 28

As Table 2 shows, during the data collection, (a) 72 students completed the English writing assessment (11 juniors and three seniors from elementary, 29 freshmen and one sophomore from intermediate, 27 freshmen and one sophomore from advanced), (b) 74 completed the Japanese writing assessment (12 juniors and three seniors from elementary, 30 freshmen and one sophomore from intermediate, 27 freshmen and one sophomore from advanced), (c) 70 completed the English reading assessment (12 juniors and 5 seniors from elementary; 24 freshmen and one sophomore from intermediate; and 26 freshmen and two sophomores from advanced level), and (d) 74 completed the Japanese reading assessment (13 juniors and eight seniors from elementary, 24 freshmen and one sophomore from intermediate, and 26 freshmen and two sophomores from advanced). The target number of the participants was 75, and the post hoc analysis

was conducted, using G*Power (Faul, Lang, & Buchner, 2007). At least 70 students participated in each assessment, and with 70 students, a power level of .83 was expected at a $p < .03$ significance level in one-tailed test.

In addition, semi-structured interviews were carried out. For the interviews, criterion sampling was employed to single out the students. The students were selected based on the level of the class they attended. Six students were drawn from the intermediate and advanced level groups (intermediate: $n = 1$, advanced level: $n = 5$).

Materials

Materials comprised consent forms, a questionnaire, L1 and L2 writing assessments, L1 and L2 reading assessments, and a set of interview questions.

Consent forms. There were two consent forms: one for the questionnaire and the assessments (Appendix A), and the other for the interviews (Appendix B).

Questionnaire. The questionnaire was developed for this research, which included questions about L1 and L2 reading habits and experience of writing instruction in L1 and L2 (Appendix C) such as time spent reading for pleasure in L1 and L2 and educational institution where the students received writing instruction. This questionnaire was distributed to the students who participated in the first data collection and collected before administering the tests.

Writing assessments. For the evaluation of writing skills in both languages, writing prompts on different topics were selected for L1 and L2 respectively from the Test of Written English in the TOEFL test, which is widely accepted by educational institutions internationally, and offers accessible topics to university students. The L1 and L2 writing prompts were selected based on the rhetorical pattern they elicit: comparison and contrast. The prompt chosen for L1 writing was translated into Japanese. The topic of the L2 writing assessment was on whether the students prefer lecture style or discussion-based classes (Appendix D). The topic of the L1 writing

assessment was on whether the students would adopt the culture of the foreign country to which they may immigrate or they would maintain their culture even after they have immigrated to another country (Appendix E).

Reading assessment. For the reading assessment instrument, a recall protocol was selected after the consideration of several models. A cloze test was one of the options for the assessment of L1 and L2 reading skills. Although this test had been adopted in other investigations, the problems of formulating tests which correspond across different languages and the lack of objective criteria to evaluate the material in the second language have been reported (Carson et al., 1990; and Pichette, Segalowitz, and Connors, 2003).

Furthermore, for the L2 reading assessment, the reading component of the TOEFL test was also considered because the TOEFL test is a standardized test which has been accepted as a reliable measurement of reading ability of non-native English speakers. This test consists of multiple-choice questions based on the expository text to assess the examinees' comprehension of reading.

Moreover, in order to assess L1 reading skills, the Japanese component of the University Testing Center Examination (UTCE) was considered. This test has been used for decades in Japan with the purposes of selecting students for university admissions, and UTCE is the most common test for native Japanese speakers who are young adults. Multiple-choice is used in this exam as well, but the genres of the reading passage adopted in this exam are a critique and a novel; whereas, expository texts are used in the TOEFL test. In addition to this problem of the incomparability of the text genres, the multiple-choice type test was regarded as problematic because of the aforementioned problem: the intervention of the questions between the reader and the passage. Considering these factors, the TOEFL test, the UTCE, and cloze tests were rejected.

Consequently, for the purpose of this study, a recall protocol was selected as the most effective instrument to measure reading skills in L1 and L2. Since the test type was assumed to be unfamiliar to the students, direction was attached (Appendix F). The topic of the L2 passage for the reading test was paper money created by the Chinese (Appendix G). This text was selected from the TOEFL preparation textbook (Phillips, 2007) with the criteria of genre, length, and difficulty. The genre of this prose was expository and the number of words was 204 which fit into the appropriate word count, 200, suggested by Bernhardt and James (1987). The difficulty of the text was determined according to the level of the TOEFL textbook from which the reading was found; this textbook is intended for intermediate level students. A mid-level text was chosen so that the elementary level students would not be discouraged from participating in the tests because of the difficulty of the passage.

The topic of the L1 reading text was collective intelligence (Appendix H). This text is an excerpt of an article from National Geographic Japan (Dell'Amore, 2010). The criteria applied to the L2 reading assessment was also adopted to the L1 reading assessment: genre, length, and difficulty. This prose is also an expository text, but the length of the L1 text is slightly longer than that of the L2's: the English version of this article includes 245 words. Owing to the fact that the subjects are native Japanese speakers, the L1 text was more demanding in terms of sophistication of the language and the numbers of ideas included. This article was intended for adult native Japanese speakers, and the participants fall into this category.

Interviews. The purpose of the interview was to investigate whether or not and how the metacognitive knowledge on reading and writing the students obtained would differ across L1 and L2. In order to learn about the metacognitive knowledge on L1 and L2 reading possessed by the students, the questions were adapted from Carrell (1989). The author created this set of questions as a questionnaire, and they were categorized

into four groups in addition to a question on the participants' conceptualization of a proficient reader, which was not categorized into any group: *confidence*, *repair*, *effective*, and *difficulty*. Several modifications were added to adjust for the current study. Firstly, the subcategories of the statements included in Carrell's questionnaire were removed except the statements on *confidence* due to the following reason. Unlike the Carrell's study, the main focus of the current study was to learn about the L1 and L2 reading strategies employed by the students rather than assessing the degree of usage of all the possible reading strategies. Also, the sets of statements in the *confidence* category were included because they contained the proficient reading behaviors which might not be recognized by the students themselves if asked as open-ended questions. Secondly, due to the fact that this questionnaire was created for native English or Spanish-speakers, the questions were on reading in Spanish as L1 or L2. Thus, this part was changed to reading in English and Japanese reading. Thirdly, because the interviews were conducted in Japanese, the Japanese version of the questions were used, which were translated by Hashiguchi (2002). Finally, because these were used as interview questions, the items were modified from affirmative to interrogative sentences. In total, 10 questions were asked. The following were the questions inquired:

1. Confidence: (a) Can you anticipate what will come next in the text?, (b) can you recognize the difference between main points and supporting details?, (c) can you relate old and new information in the text?, (d) can you question the significance or truthfulness of what the author says?, (e) can you use your prior knowledge and experiences to understand the content of the text you are reading?, and (f) do you have a good sense of when you understand the text and when you do not?,
2. Repair: when reading silently in Japanese (or English), if you don't understand something, what do you do?

3. Effective: what are the things you do to read effectively? what do you focus on?
4. Difficulty: what are the things that make the reading difficult?
5. Perception of a proficient reader: what ability makes a good Japanese or English reader?

For the inquiry into metacognitive knowledge on L1 and L2 writing, the interview questions devised by Victori (1999) were employed. The categorization of the metacognitive knowledge was also adapted from Victori (1999): person knowledge, task knowledge, and strategy knowledge. Although the author presented 25 questions (Appendix I), due to the time constrain, these questions were reduced to eight. The interview consisted of three questions on person knowledge, two questions on task knowledge, and three questions on strategy knowledge. Some questions were modified because the original questions were created for the native Spanish or Catalan-speaking participants. Thus, the questions which included Spanish and Catalan were changed to Japanese. The selection of the eight questions was based on the following reasons: the relatedness to the current study, cultural context of the research site, and the redundancy of the questions. Concerning the relatedness to the study, because two questions were on the think aloud protocol used by Victori (1999), these questions were omitted. Also, the other questions on the confidence level of the students in their ability to write in L2 were removed. Because the Japanese tend to be modest when evaluating themselves, the responses were assumed to be identical; more humble assessment than they actually think. Finally, some questions were centered around the same topics such as planning and revising; therefore, these redundant questions were reduced to the minimum questions. In addition, three original questions were added in order to enquire into the students' past L1 and L2 writing experiences and their perception of factor contributing to the development of L2 writing skills. As a result of these processes, the following questions were asked:

1. Person knowledge: (a) What is your idea of good writing and of a good writer?; (b) what kinds of problems do you have when writing?; and (c) do you think in Japanese or English while writing? Is it good to do so?
2. Task knowledge: (a) Do you ever bear in mind who is going to read your essay, that is, your reader?; and (b) how do you think an essay should be organized?
3. Strategy knowledge: (a) Have you done any kind of planning before starting to write?; (b) do you often stop writing while composing? and what do you do then?; and (c) how do you usually revise your essays?
4. Original questions: (a) What type of writing assignments have you been required to do in high school and at university? was the writing assignment academic (collected information before writing) or based only on your opinion?; (b) did your teachers provide you with any feedback on your writing?; and (c) what do you think is the factor which have the most strongly influenced the development of your English writing ability: language inputs from Japanese or English reading, writing instruction in Japanese or English, your English language proficiency, or your Japanese writing skills?

Additional questions were also asked based on the individual responses.

Procedure

The instructors of the selected English courses were contacted, provided with a letter of request for the permission to access their students (Appendix J). In the letter, the brief summary of the research and procedures of data collection were described. After they agreed to cooperate in the study, the schedule was set by direct contact between the researcher and the instructors. The data collection was conducted during their class time.

The first data collection, including the questionnaire survey and the L1 and L2 writing assessments, was carried out in the third and fourth weeks of September and

the first and second weeks of October in 2010. The second data collection for the L1 and L2 reading assessments was held at the end of October in 2010.

During the first data collection, the consent forms were distributed to the students. Then the investigator explained the research and clarified that the participation in the study was voluntary. The respondents were asked to complete the questionnaire in 10 minutes. The L2 writing assessment was carried out first, and the L1 writing assessment followed. The time limit for each assessment was 15 minutes.

For the reading assessment, students were provided with one of the readings (L1 or L2) and were asked to read for five minutes and recall the content in written form for 10 minutes immediately after the reading. The English reading assessment was implemented first followed by the Japanese reading assessment. The students were told that they would be asked to write down everything that they could remember from the text in Japanese for both L1 and L2 reading assessments. They were not allowed to take notes nor use a dictionary. The reading passage was collected by the researcher at the beginning of both recall sessions.

For the interviews, an invitation was sent to nine students via email. Among nine students, six students cooperated in the interviews. The respondents were asked the same questions and extra questions which arose during the meeting. The students were interviewed individually on campus for approximately 30 minutes. The interviews were recorded with the permission of the participants. Only relevant remarks were transcribed and translated into English by the researcher.

Scoring schemes. The scoring of the English writing assessment was based on the ESL Composition Profile (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981), which is an analytic scale for evaluating the writing of non-native English speakers (Appendix K). There are five categories of criteria: content, organization, vocabulary, language use, and mechanics. A range of scores are listed in each category, accompanied with

descriptors. The Japanese writing was assessed based on the analytic scale developed specifically for Japanese expository writings by Sasaki and Hirose (1999). This scale consists of six components of criteria: clarity of the theme, appeal to the reader, expression, organization, knowledge of language forms, and social awareness (Appendix L). A range of scores and descriptors are also provided in this scale. These two types of scoring scales correspond with each other according to Sasaki and Hirose (1999) since both are analytic scales. Although the Japanese rating scale incorporated criteria which are not included in the English counterpart; namely, social awareness and appeal to the reader, the other components are comparable. Furthermore, Sasaki and Hirose (1999) reported that the correlation between their scale and that of English was relatively high (0.76). Therefore, the present research adopted the scale developed by Sasaki and Hirose (1999) and Jacobs et al. (1981) so that both L1 and L2 writing samples would be scored in accordance with the value of each educational system. In the Western educational system, a thesis statement is required; whereas, manifestation of a position, for or against, is sufficient in the Japanese counterparts. The total score of L1 writing was converted from 60 to 100 for ease of analysis.

The scoring schemes for the L1 and L2 reading assessments were devised for this study. Based on Bernhardt (1983) and Bernhardt and James (1987), the L1 and L2 texts were segmented into idea units by the researcher. The L2 text was divided into 21 idea units. Each idea unit was assigned a point value, from one to five, depending on the importance of the idea. Out of 21 ideas, one unit was awarded with five points, three units with four, six units with three, and 11 units with two. This list of idea units was submitted to a Japanese professor who specializes in Applied Linguistics in the International Language Education (ILE) Graduate Program, and she divided the text into 22 idea units and assigned scores to each unit. Out of 22 ideas, three ideas were awarded with four points, three ideas with three, 12 ideas with two, four ideas with one.

The number of idea units were decreased from 22 to 20 because two items included the same word, and the other item only expressed tense. Therefore, the former was united into one item, and the latter was deleted because the item was judged to be unnecessary. These outcomes were compared, and 20 idea units were included in the scoring which comprised one idea unit with the five points, three units with four, three units with three, and 13 units with two points. The total score is 52, and was converted into 100 for statistical analysis purposes. The list was developed into a grade slip (Appendix M).

By the same token, the scoring scheme for L1 reading was produced following Bernhardt (1983) and Bernhardt and James (1987). The researcher of the present study divided the text into 40 idea units which consisted of idea units scored from five to one according to the level of importance. The Japanese professor in the ILE Graduate Program divided the text into the 40 idea units as well. The finalized version of the scoring scheme contained 42 idea units: one unit with five points, three units with four, seven units with three, 27 units with two, and three units with one (Appendix N). Two idea units were added because they had been judged to express the same ideas with other items, but later they were judged to convey different meanings. The total score was 95 points, and converted to 100 for statistical analysis purposes.

Norming sessions and scoring. In order to establish a common understanding of the evaluation criteria for L1 and L2 reading and writing assessments among raters, norming sessions for each assessment were conducted. The session for L2 writing grading was held under the guidance of a native English-speaking professor in the ILE Graduate Program, who specialized in the field of Applied Linguistics. The scoring grid was provided to three graduate students who major in the field of Teaching English to Speakers of Other Languages (TESOL) in the ILE Graduate Program, and the descriptors were explained. Then, referring to the ESL Composition Profile, the graduate students, the researcher, and the supervisor graded four samples: one lower,

two middle, and one high level writing samples. The scores were compared, and differences in scores were discussed until a common understanding of descriptors was reached. During this session, the importance of a thesis statement was emphasized, and the level of language use was reconfirmed. Each graduate student scored 16 different samples, and the professor scored other 24 samples subsequently. Their scores were compared to those rated by the researcher, and the results were approximate. Then the scores were averaged to obtain reasonable agreement between the scores assigned by two raters on the identical sample.

A norming session for the evaluation of the L1 writing assessment was also conducted. A Japanese professor, specializing in Applied Linguistics, supervised the session, following the same procedure employed in the norming session for the grading of the L2 writing assessment. Three graduate students who major in the field of Teaching Japanese as a Foreign Language (TJFL) in the ILE Graduate Program, including an experienced Japanese teacher with 13 years experience, were cooperated in the norming session. They were provided with the analytical scale devised by Sasaki and Hirose (1999), and the researcher described the detail of the scale. Three samples at the different levels were scored, and discussions were held to establish the norm. During this norming session, two graduate students tended to be strict on language use, and the other student was more generous on overall rating. Therefore, an acceptable range of deviation of language use was discussed, and agreement was reached. These students also individually scored five different writing samples afterwards, and these scores were compared with the scores rated by the researcher. There were several samples which the graduate student and the researcher disagreed on the scores, but the researcher adjusted the scores if the judgment of the graduate student seemed reasonable. Then, these scores were averaged to gain reasonable agreement between the scores.

A norming session for the evaluation of the L2 reading assessment was also carried out. The same graduate students in the TESOL program attended a norming session supervised by a native English-speaking professor in order to determine a common standard for the evaluation of the L2 reading assessment. The aforementioned grade slip and three samples at different levels, lower, middle, and high, were distributed to the graduate students. The graduate students and the researcher scored each sample, and compared the scores. The grading standards of the researcher and the graduate students for L2 reading were approximate. After the session, each graduate student scored 10 different samples. Their scores were compared to the scores decided by the researcher; they were almost identical to each other. Then, these scores were averaged to attain reasonable agreement between the scores.

Finally, a norming session to grade the L1 reading assessment was held. The session was supervised by a Japanese professor in the ILE Graduate Program. The same graduate students in the TJFL program were involved in this session. Since their judgment was stricter than that of the researcher, they were asked to explain their reasoning, and if their decisions were too rigid, the researcher determined a compromise in consultation with the professor. The procedure was the same as that of the norming session of the L2 reading assessment. Subsequently, five different reading samples were scored by the individual students, and compared with the scores which the researcher decided. The result was relatively similar to the researcher's scoring, and these scores were averaged for the reasonable agreement between the scores.

Data analysis

Firstly, for the questionnaire, the average time spent for reading in each category was calculated: L1 and L2 pleasure reading and academic reading. Then the percentage of the students who experienced writing instruction was analyzed for each language. Secondly, the mean scores and standard deviations of the L1 and L2 reading and writing

assessments were analyzed in order to gain a general trend of the scores. Subsequently, correlation coefficients were analyzed in order to investigate the relationships between variables: the L1 reading, L2 reading, L1 writing, and L2 writing assessment. Thus, the test results of all the students were included. This analysis was for the first four research questions. Based on Carson et al. (1990), the possible relationships expected in this analysis were (1) a positive correlation between L1 and L2 reading skills, (2) a positive correlation between L1 reading and writing skills, (3) a weak correlation between L1 and L2 writing skills, and (4) a positive correlation between L2 reading and writing skills. Lastly, *t* tests were conducted to explore the relationships between the two groups, the intermediate and advanced level students, for each variable listed above.

Results

L1 and L2 Reading and Writing Assessments

Table 3

Means and Standard Deviations for L1 and Reading and Writing Assessments (100 points possible)

Task	All Levels	
	M	SD
Reading		
L1 (n = 75)	37.1	14.2
L2 (n = 70)	60.4	17
Writing		
L1 (n = 74)	61.4	14.4
L2 (n = 72)	63.4	9.6

Mean scores which encompass all levels are reported in Table 3. With a 100 point scale, the mean score for the L1 reading assessment was 37.1 (14.2), and the mean for L2 reading was 60.4 (17.0). The mean score for the L1 writing assessment was 61.4

(14.4), and the mean for the L2 writing assessment was 63.4 (9.6). Among the L1 and L2 reading and writing assessments, a significantly lower mean score was observed in the L1 reading assessment. This lower mean score of the L1 reading assessment might be caused by the difficulty of the text used for the recall protocol. As mentioned earlier, the L1 text was more complex than that of L2. The L2 text only used general terms; whereas, the L1 text included several specific terms such as social sensitivity and collective intelligence which might have caused the significant decline in recalling. Moreover, some interviewees reported that they could more easily remember the content of the L2 text exactly as was presented, but when reading the L1 text, they reported that they tended to mentally summarize the text; as a result, their recall missed details of the text.

Table 4

Correlations for L1 and L2 Reading and Writing Assessments

Variables	All Levels
L1 reading - L2 reading	$r = .258^*$
L1 writing - L2 writing	$r = .325^{**}$
L1 reading - L1 writing	$r = .080$
L2 reading - L2 writing	$r = .463^{**}$

* $p < .05$

** $p < .01$

The Pearson's correlation was calculated to analyze the relationships of the L1 and L2 reading and writing assessments, and the results are presented in Table 4. The correlations were weak to moderate as Carson et al. (1990) found in their research. Firstly, the L1 and L2 reading scores showed a weak correlation ($r = .258$, $p < .05$), and secondly, the L1 and L2 writing scores indicated a weak correlation as well ($r = .325$, $p < .01$). Carson et al. (1990) indicated that the relationship of the L1 and L2 reading assessments was stronger than that of the L1 and L2 writing assessments in their study.

However, in the current research, the relationship between writing skills across languages was slightly stronger than the correlation of reading skills across languages. This might be due to the aforementioned difficulty of the L1 reading assessment, or the rating scales for the writing assessments. The present study employed two different analytic scales which had been specifically developed for English and Japanese writing respectively; whereas, Carson et al. (1990) created a holistic scale for their research to evaluate L1 writing, and adopted the scale used in the TOEFL test to evaluate the L2 writing samples. As Sasaki and Hirose (1999) pointed out, their analytic scale might have allowed the raters to evaluate Japanese writing more accurately as they reflected the criteria valued in the Japanese educational system. In sum, these two results of the correlational analysis seem to indicate that students who are more proficient in L1 reading and writing skills are also more proficient in L2 reading and writing skills.

Thirdly, as Table 4 shows, no correlation was found between the L1 reading and writing assessments ($r = .080$, $p = .26$). Lastly, the result of the L2 reading and writing assessments showed a moderate correlation ($r = .463$, $p < .01$). For the group of the Chinese students in Carson et al. (1990), a correlation between L1 reading and writing skills was weak, and a correlation between L2 reading and writing skills were moderate; whereas, for the Japanese group, the opposite was observed. Carson et al. (1990) speculated that this result might be due to the decrease in time writing in L1 because the length of residence in the U.S. reported by the Chinese students was much longer compared to the Japanese participants. Although the relationships of reading and writing skills in L1 and L2 in the current study were more similar to those of the Chinese group, their assumption does not apply to the participants of this study because almost all of the students have never studied abroad.

Another possibility might be again the L1 reading assessment. Despite the fact that the type of the reading assessment was unfamiliar to the students, this

unfamiliarity did not seem to cause difficulties in the students in the L2 reading assessment because they generally performed effectively in the assessment. Rather, the cause might be that the students were more alert during the L2 reading assessment because they were reading in L2, and knew that they would recall in L1 afterwards. In order to recall in L1, mentally translating the idea into L1 might be necessary, which might require them to carefully look at each word and comprehend the text so that they could encode later in L1. On the other hand, during the L1 reading assessment, they might be less alert and assumed that they comprehended the text because they read and recalled in L1, and the text was not difficult to read although several technical terms appeared. Nevertheless, in general, the reading-writing relationship in L2 showed the strongest correlation among the other relationships, which suggests that the more proficient L2 readers are the better L2 writers.

Furthermore, the test scores of the elementary level students were excluded due to the small number of the students, and independent-samples *t* tests were conducted to see if the intermediate and the advanced level groups differed on the L1 and L2 reading and writing assessments. The results are presented in Table 5.

Firstly, no significant difference was observed in the L1 reading assessment for the intermediate level students ($M = 34.18$, $SD = 12.63$) and the advanced level students ($M = 41.74$, $SD = 16.79$), $t(49.64) = -1.86$, $p = .068$ (two-tailed), and the magnitude of the difference in means was moderate ($\eta^2 = .06$). Thus, L2 proficiency level seems to moderately influence L1 reading skills. Although the connection between these two variables is unclear, higher L2 proficiency might be indicative of higher aptitude in language-related skills, which might support the existence of the underlying academic proficiency argued in the interdependent hypothesis (Cummins, 1994).

Secondly, a significant difference was found in the L2 reading assessment for the intermediate level students ($M = 58.50$, $SD = 15.18$) and the advanced level students (M

= 69.81, SD = 12.81), $t(51) = -2.91$, $p = .05$ (two-tailed). Also, there was a large effect size for the difference (eta squared = .15). Therefore, L2 language proficiency levels seem to be critical for L2 reading skills, and this result corresponds with the past studies which reported that L2 language proficiency was the strong predictor for L2 reading skills (e.g. Bernhardt and Kamil, 1995; Carrell, 1991; and Lee and Shallert, 1997).

Table 5

Independent-Samples *t*-Tests of Performance of Different L2 Language Proficiency Groups

Assessment	Level	M	SD	<i>d</i>	<i>t</i>	Effect size ^a
L1 Reading				49.63	-1.86	0.06
	Intermediate (N = 25)	34.18	12.63			
	Advanced (N = 28)	41.74	16.79			
L2 Reading				51	-2.91**	0.15
	Intermediate (N = 25)	58.5	15.18			
	Advanced (N = 28)	69.81	12.81			
L1 Writing				56.97	-1.86	0.06
	Intermediate (N = 25)	61.96	12.9			
	Advanced (N = 28)	67.96	11.91			
L2 Writing				49.3	-0.17	0.17
	Intermediate (N = 25)	66.07	9.08			
	Advanced (N = 28)	66.41	5.71			

** $p = .005$.

^aEta squared

Thirdly, the L1 writing assessment of the intermediate level students (M = 61.96, SD = 12.90) was not significantly lower than that of the advanced level students (M = 67.96, SD = 11.91), $t(56.97) = -1.86$, $p = .70$ (two-tailed), and the magnitude of the difference in means was moderate (eta squared = .06). Consequently, L2 language proficiency seems to be moderately important for L1 writing skills as well, and the same

interpretation of L2 reading skills could be applied to L1 writing skills: the higher L2 language proficiency, the higher the aptitudes for literacy-related skills. Finally, there was no significant difference in scores of the L2 writing assessment between the intermediate level students ($M = 66.07$, $SD = 9.08$) and the advanced level students ($M = 66.41$, $SD = 5.71$), $t(49.30) = -.17$, $p = .89$ (two-tailed), but the effect size was large (eta squared = .17). Thus, L2 language proficiency seems to be a crucial factor to succeed in L2 writing.

In general, the cause of the result which showed no significant differences between the intermediate and advanced level students in the L1 reading and writing skills could be due to the fact that they are both native Japanese speakers. In addition, the reason for the result that no significant difference was found in the L2 writing assessment between the levels could be because of little experience of L2 writing of both groups as they reported in the questionnaire.

Questionnaire

The outcomes of the questionnaire survey are presented in Table 6. The survey revealed that the participants of this study read Japanese texts for pleasure weekly, and the elementary level students reported longer hours of reading than the higher proficiency level groups. On the other hand, the students rarely read English texts for pleasure regardless of English proficiency levels. Similarly, the reading time for Japanese academic texts was the highest among the intermediate and advanced level students, and the advanced level group reported more than one hour longer L1 academic reading time than the intermediate level group.

Meanwhile, the time spent for reading English academic texts was low throughout the levels, but time spent for reading English academic texts reported by the advanced level group was almost twice as long as that of the intermediate level group. Although there was only a slight difference among the levels, the advanced level

students reported the highest average reading time for all the variables except Japanese reading time for pleasure. This result might reflect the significant difference in L2 reading skills found in *t* test which compared the intermediate and advanced level students.

Table 6

Means and Standard Deviations of Reading Time for each Proficiency Level Group

Question	Elementary (n = 15)		Intermediate (n = 31)		Advanced (n = 28)	
	M	SD	M	SD	M	SD
Pleasure reading time (hours per week):						
L1	4.5	4.89	2.94	3.73	3.19	3.27
L2	0	0	0.15	0.31	0.16	0.33
Academic reading time (hours per week):						
L1	2.11	2.54	3.1	3.22	4.46	5.43
L2	1.11	1.3	0.98	1.41	1.89	1.63

Moreover, as is presented in Table 7, the percentage of the students who have experienced L1 writing instruction was the highest among the elementary level students although the number of the elementary students participating in the study was lower than those of other levels. In contrast, there were no students who have received L2 writing instruction among the elementary level students while the intermediate level group reported approximately two times higher percentage of the students who received L2 writing instruction. This result might support the effectiveness of L2 composition instruction which might have contributed to the approximate L2 writing scores between

the intermediate and advanced level students regardless of difference in L2 proficiency levels.

Table 7

Experience of writing instruction of the levels sampled

Experience of writing instruction	Elementary (n = 15)	Intermediate (n = 31)	Advanced (n = 28)
L1 (%)	73.3	54.48	67.86
L2 (%)	0	41.94	21.43

Interviews

Six students were interviewed in order to gain further insights into their metacognitive knowledge on L1 and L2 reading and writing, and the summaries of their responses are presented in this section. The questions were adopted from Carrell (1989) for reading and Victori (1999) for writing. The categorization of the questions followed Carrell (1989) and Victori (1999) to analyze the responses.

Table 8

Scores of Each Assessment for the Interviewees
(100 points possible)

Student	L1 reading	L2 reading	L1 writing	L2 writing
1	61.8	96.2	78.3	69
2	22.7	73.1	83.3	86
3	58.7	73.1	68.3	72
4	54.6	67.3	76.7	63
5	24.7	69.2	83.3	63
6	44.3	46.15	80	61

The students were numbered to secure their privacy. Student 1 to 5 were advanced level students, and only Student 6 was an intermediate level student. Table 8 shows the scores which the interviewees obtained in the L1 and L2 reading and writing assessments.

Table 9

Grouping of the Scores on the Assessments

Type of Assessment	Low	Moderate	High
L1 reading	0-21.3	21.4-56.0	56.1-100
L2 reading	0-48.3	48.4-78.0	78.1-100
L1 writing	0-51.1	51.2-76.4	76.5-100
L2 writing	0-57.4	57.5-73.3	73.4-100

The categorization of scores of each assessment is presented in Table 9. The levels were divided into three: low, moderate, and high, and the range of scores for each level was determined based on the means and standard deviations of the scores gained by all the intermediate and advanced level students. For the L1 reading assessment, the low level group was categorized as scores between 0 to 21.3, the moderate level group was from 21.4 to 56.0, and the high level group was from 56.1 to 100. For the L2 reading assessment, the low level group was categorized as scores from 0 to 48.3, the moderate level group was from 48.4 to 78.0, and the high level group was from 78.1 to 100. For the L1 writing assessment, the low level group was categorized as scores from 0 to 51.1, the moderate level group was from 48.4 to 78.0, and the high level group as 78.1 to 100. For the L2 writing assessment, the low level group was categorized as scores from 0 to 57.4, the moderate level group was from 57.5 to 73.3, and the high level group was from 73.1 to 100. Based on this range of scores, the students were separated into the low, moderate, and high level groups for each assessment.

Table 10

Grouping of the Interviewees by Performance Level On the Assessments

Student	Level of Performances			
	L1 reading	L2 reading	L1 writing	L2 writing
1	High	High	High	Moderate
2	Moderate	Moderate	High	High
3	High	Moderate	Moderate	Moderate
4	Moderate	Moderate	High	Moderate
5	Moderate	Moderate	High	Moderate
6	Moderate	Low	High	Moderate

Table 10 presents the grouping of the students by their levels of performance in the assessments. For the L1 reading assessment, Student 1 and 3 were classified into the high level group, and Student 2, 4, 5, and 6 were classified into the moderate level group. For the L2 reading assessment, Student 1 was in the high level group, Student 2, 3, 4, 5 were in the moderate level group, and Student 6 was in the low level group. For the L1 writing assessment, Student 1, 2, 4, 5, and 6 were in the high level group, and Student 3 was in the moderate level group. Finally, for the L2 writing assessment, Student 2 was in the high level group, Student 1, 3, 4, 5, and 6 were in the moderate level group.

L1 and L2 Reading. The present study follows the labels of the metacognitive reading strategies indicated by Carrell (1989): *confidence*, *repair*, *effective*, and *difficulty*. Also, the students' perceptions of a proficient reader were included. For comparison, the levels of L1 and L2 reading were noted in brackets. For example, Student 2 will be shown as follows: Student 2 (moderate-moderate).

L1 Confidence. In this section, the perceptions of the students on their reading ability in L1 is summarized. The results of L1 and L2 *confidence* is shown in Table 11.

Table 11

Reading Strategies in which the Students are not Confident												
Strategies	Students											
	1		2		3		4		5		6	
	Language used											
	1	2	1	2	1	2	1	2	1	2	1	2
Anticipating	×	×					×	×			×	×
Distinguishing main from supporting points		×			×	×						×
Connecting old and new information		×					×	×		×		
Questioning the validity of the author's opinion		×		×							×	
Utilizing background knowledge								×				
Assessing own understanding of the text								×				

In Carrell's (1989) study, no correlation was found between the confidence level and the achievement level of the L1 reading assessment. Similarly, no pattern was observed in the current study as well, though in general, all the interviewees were more confident in L1 reading skills. For question number one, half the students, Student 1 (high-high), 4 (moderate-moderate), and 6 (moderate-low), were not certain if they could anticipate subsequent discussions in the text while reading. Only Student 3 (high-moderate) answered that discriminating main and supporting points was difficult. For question number three, Student 4 (moderate-moderate) mentioned that connecting the previous information with the new information in the text could be done only occasionally. All the students were confident in the rest of the reading skills: questioning the validity of opinions of the author, referring to their background

knowledge, and assessing their own understanding of the text. In fact, only the bottom two students in L1 reading, Student 2 (moderate-moderate) and 5 (moderate-moderate), were convinced that they were able to manage all the strategies in this category.

L2 Confidence. Overall, the students indicated that the abilities which were not acquired in L1 were also absent from L2 reading skills, but the opposite relationship was not reported. For L1 reading, the ability to predict the next content in the text was regarded as challenging for half the students, and they were mostly confident in the other skills. However, the number of reading skills in which the students were not confident increased to four for L2 reading. These four reading skills were reported difficult by three students respectively: predicting the content follows, distinguishing main from supporting points, relating existing and new information, and questioning the authenticity of opinions. Student 1 (high-high), 4 (moderate-moderate), and 6 (moderate-low) noted that they could not anticipate the content in L2 as well as in L1. Student 1, 3 (high-moderate), and 6 were not confident in their skills to distinguish the main from peripheral ideas. Student 1, 4, and 5 (moderate-moderate), whose levels were all moderate and above, mentioned that they were unable to link the old and new information in the text although only Student 4 answered that this ability was not acquired in L1 either.

Moreover, Student 1, 2 (moderate-moderate), and 5, again who were moderate or high level L2 readers, reported that they could not question the author when reading in L2. Consequently, Student 4, the only student who selected more than one reading skill as problematic in L1 reading, reported that she was not confident in the four strategies when reading in L2. The number of the items the students expressed concerns in *confidence* did not seem to be related to the score of the reading assessment among the interviewees. The most proficient reader, Student 1, who demonstrated the highest scores for both L1 and L2 reading among the interviewees, was not confident in the four

reading strategies. An assumption could be drawn that the more proficient reader might pursue higher level of achievement, and they might tend to underestimate their abilities, comparing themselves to a higher standard.

L1 Repair. This section includes the reading strategies for *repair* which a reader uses when confronting a problem to understand the text. Again, Carrell (1989) found no correlation between L1 *repair* and L1 reading proficiency levels, and the responses of the interviewees of the current study did not seem to be influenced by their level of L1 reading scores either. Two students chose the strategies included in Carrell (1989). Student 6 (moderate-low) mentioned that she would continue reading for further clarification; whereas, Student 3 (high-moderate), the higher L1 reading achiever, reported that he used two strategies: looking up words in a dictionary, and rereading the difficult part slowly. Nevertheless, four students provided an identical answer. Student 1 (high-high), 2 (moderate-moderate), 4 (moderate-moderate), and 5 (moderate-moderate) reported that they would use a reading strategy other than the ones listed by Carrell (1989): they would infer the meaning from the context. This identical response could be assumed to be caused by the intensive training in L1 reading they received at a secondary school for the preparation of university entrance exams.

L2 Repair. Carrell (1989) reported that the students who agreed that they quit reading when they faced trouble understanding the text were less likely to achieve higher scores in the L2 reading assessment. In the present study, no student referred to this strategy. As these students volunteered for the interviews, their level of motivation is assumed to be high enough to avoid such a strategy. The trend identified in this study was that the higher the L2 reading score, the more varieties of strategies employed by the students; in addition, the higher achievers included the same strategies they used in L1 reading. Firstly, the students whose L2 reading scores were relatively lower cited only one strategy. Student 6 (moderate-low), the weakest L2 reader, reported that her

only strategy was to look up words in a dictionary while she responded that continuing reading was the best strategy in L1. Student 4 (moderate-moderate) and 5 (moderate-moderate) mentioned that they employ this strategy in L2 reading, continuing reading, while they reported that they inferred from context when reading in L1. In contrast, Student 1 (high-high), 2 (moderate-moderate), and 3 (high-moderate) achieved the higher score than the rest. Student 1, the most effective L2 reader, responded that he employed three strategies; whereas, Student 2 and 3, who gained the same score on the L2 reading assessment, reported that they used two strategies. Both Student 1 and 3 noted that they inferred the meaning from the context, and used a dictionary, but only Student 1 responded that he reread the text. Student 3 mentioned that he used a dictionary, and analyzed grammatical structures. Although Student 3 noted that he reread problematic parts slowly when reading in L1, this strategy was replaced with analyzing syntax for L2 reading. Another noticeable trend was that all of them, Student 1, 2, and 3, chose the strategy to use a dictionary as a secondary choice. Their L2 *repair* strategies also seemed to be considerably influenced by their learning experience in junior high and high schools as they indicated the same strategies they used in L1 reading. In particular, the strategy of Student 3 to analyze the grammatical structure seemed to be heavily exam-oriented.

L1 Effective. Effective is the category of strategies for enhancing the understanding of the text. For L1 *effective*, there was no clear trend among the responses. All of the students admitted that they were not aware of any *effective* strategy for reading. Both top and bottom L1 readers, Student 1 (high-high) and 2 (moderate-moderate), mentioned that paying attention to transitions and conjunctions was an *effective* strategy, but the others use different strategies: reading the introduction and conclusion (Student 3), identifying key words and reading with key words in mind (Student 5), focusing on particular expressions (Student 4), and mentally

summarizing each section (Student 6). Nevertheless, according to Carrell, (1989) there are seven reading strategies for *effective*, and by applying these categories to analyze the responses, some trends were found. The subcategories are sound-letter, word-meaning, sentence syntax, content details, text gist, background knowledge, and text organization (Carrell, 1989, p. 124). The first four categories were regarded as local strategies, and the latter three as global strategies by Carrell (1989). Following this categorization, the strategy used by Student 1 and 2 is applicable to text organization. The strategies used by Student 3 (high-moderate), 5 (moderate-moderate), and 6 (moderate-low) seem to fall into text gist. Finally, sentence syntax seems to be an appropriate label for the response of Student 4 (moderate-moderate). Although Student 4 employed the local reading strategy, her performance on the L2 reading assessment was the second best among the other interviewees. This might be due to the test type which was to recall the text because her strategy to concentrate on details of the text might bring an advantage over the others who focus more on gist.

L2 Effective. As Student 1 (high-high) and 2 (moderate-moderate) responded on L1 *effective*, they answered that they would focus on transitions and conjunctions in L2 reading, which is the strategy of text organization. Student 5 (moderate-moderate) also chose this strategy while he reported finding key words as his L1 *effective* strategy. Other responses were inconsistent: Student 3 (high-moderate) responded that analyzing the sentence patterns was his strategy, sentence syntax, and Student 4 (moderate-moderate) reported that she focused on individual words, which is the strategy of word-meaning. Therefore, Student 1 and 2 again did not change their *effective* strategies across languages. Student 3 switched from global to local strategy when reading in L2. Student 5 reported different strategies for L1 and L2 reading, but both of them were global strategies. Conversely, Student 4 also reported that she switched strategies for L1 and L2 reading, but both of them were local strategies. Student 6 (moderate-low), the

weakest L2 reader, again reported that she would use a dictionary to read L2 texts effectively, word-meaning, though she would focus on text gist in L1 reading. The transfer of the global strategy used in L1 to L2 reading behaviors might be also hindered by her limited language proficiency as explained in the short circuit hypothesis (Clarke, 1980). In comparison of Student 1 and 6, the proficient reader seemed to analyze the text because he indicated that he would infer the meaning for both L1 and L2 *repair*, which requires the reader to identify the meaning of the contents around the problematic part, and would focus on transitions and conjunctions for both L1 and L2 *effective*, which would direct the reader to identify the relationships between the ideas. Student 6, on the other hand, tended to depend on a dictionary.

L1 Difficulty. This section includes the items which caused difficulties in reading. The same subcategorization was applied to *difficulty* as listed for *effective*: sound-letter, word-meaning, sentence syntax, content details, text gist, background knowledge, and text organization (Carrell, 1989, p. 124). Carrell (1989) reported that sentence syntax and sound-letter negatively correlated with the L1 reading performance for her Spanish students. In similar vein, four students, Student 1 (high-high), 3 (high-moderate), 4 (moderate-moderate), and 6 (moderate-low), named the grammatical structure, which is sentence syntax. Student 2 (moderate-moderate) and 5 (moderate-moderate) also indicated a local problem as *difficulty*, which was word-meaning, and they reported that uncommon vocabularies made reading more demanding. None of the students named global items as a problem for L1 *difficulty*. These responses might be because of euphemistic expressions and compounds which consists of low frequency Chinese characters as Student 5 stated as follows:

“[The factor which causes me trouble to understand the text is] the words which contain many Chinese characters. I don’t understand the meaning, though it’s Japanese”.

L2 Difficulty. For *L2 difficulty*, word-meaning was the problem for all the interviewees except Student 2 (moderate-moderate). They were all concerned about their limited amount of L2 vocabulary knowledge. For Student 2, whose *L1 difficulty* was word-meaning, content details were the factor for *L2 difficulty*. He mentioned that he struggled to understand the content if the author did not provide any concrete examples. Both of these strategies are local strategies, and Carrell (1989) reported that her lower proficiency level students who were in EFL context depended on bottom-up strategies as well. Although L2 proficiency level of the interviewees was relatively higher, they still focused on local strategies. This might be due to their educational background. The participants of this study had received the grammar-translation method in the secondary education, which emphasizes the bottom-up skills, and this habit might have caused them to be preoccupied with local information.

Perception of a proficient L1 reader. Lastly, the students were asked about their image of a proficient L1 reader. Four students, Student 1, 3, 4, and 6, perceived that those who read extensively were competent in L1 reading. The bottom two students, Student 2 and 5 regarded those who were able to identify the organization of a text as a proficient L1 reader.

Perception of a proficient L2 reader. The responses for this question widely varied, and the students reported multiple descriptions. The most frequently indicated item was the amount of vocabulary knowledge. Student 3, 5, and 6 pointed out this aspect. Other comments centered around the characters of a reader rather than reading behaviors. For example, hard working (Student 1), ambitious (Student 6), and highly intelligent (Student 4) were listed as qualities. Only Student 2 referred to the larger amount of L2 reading. This lack of awareness of the importance of extensive L2 reading seemed to reflect in the result of the questionnaire survey. All the students reported that they spent almost no time reading L2 texts for pleasure.

L1 and L2 Writing. As mentioned earlier, the questions were classified based on the study by Victori (1999), namely, person knowledge, task knowledge, and strategy knowledge.

L1 Person Knowledge. The first question for this knowledge was on the conceptualization of an effective writing and writer. All the interviewees, except Student 4, answered that their ideas of successful writing and writer were the same for L1 and L2 writing. The primary importance they identified was the clarity of theme, which was included as a criterion in the analytic scale by Sasaki and Hirose (1999). Student 5 mentioned that the character of an effective writer was to be able to condense the main argument and only include necessary information. In addition, four students, Student 1, 2, 4, and 6, pointed out that an effective piece of writing should present the argument in an organized manner. The second question was on the difficulties of L1 writing. Student 1 and 6 did not express any concerns on L1 writing. The other four students pointed out different levels of difficulties. Student 2, the more successful L1 writer, reported the difficulty in the content. He mentioned that he struggled to link sentences. Student 5, who was another more successful L1 writer, responded that writing unnecessary information was the problem for her. Student 3 and 4, the bottom two students, reported the difficulties in language use. Student 4 indicated that there was a variety of expressions in Japanese, so selecting a proper word was a problem for her. Student 3 mentioned that he was often confused how to end a sentence because he tended to write long sentences.

L2 Person Knowledge. As mentioned earlier, the responses for the first question was the same for L1 and L2. Nevertheless, Student 6, whose L2 writing score declined the most significantly from the result of L1 writing, included the ability to express the ideas with sophisticated language as a feature of a proficient L2 writer. Also, Student 5, another student whose score declined in L2, responded that the ability to express the

idea exactly as the writer mentally generated was a characteristic of a skilled writer. For the second question on the difficulty, the responses concentrated around the lack of vocabulary and the lack of ability to translate the ideas the students conceived in their L1 to L2. Only Student 5 and 6 with the decreased L2 writing score reported that they were not confident in the command of grammar as well. Student 1, 2, and 4 admitted that they lacked the language to express the ideas that they could write in their L1, and recognized the differences of expressions in the two languages. The last question was on the language in which the students think when composing in L2. The students answered that they thought in Japanese, and thinking in English was regarded to be more effective. They reported that their high school English teachers suggested that they should think in English for L2 writing, but the students stated that they were unable to do so.

L1 Task Knowledge. There was no distinguishing response influenced by L1 writing proficiency for the first question on task knowledge, which was the awareness of the audience. Student 2, 3, 5, and 6 responded that they heeded the reader when writing in L1. Student 2 mentioned that he would add a definition if he used infrequent words. Student 3 reported that he paid attention to the clarity and understandability of the expressions. Student 5 mentioned that she checked if the message could be successfully conveyed to the reader, and Student 6 considered how she could catch interest of the audience. On the other hand, Student 1 and 4 reported that they did not consider the reader even when they wrote in Japanese. Student 4 responded that she would be aware of the reader if she was writing a letter, but if she was writing a report, the reader was not in her mind. For the second question on the organization of an essay, all the students except Student 4 answered that L1 essay should be organized into an introduction, body, and conclusion, and they noted that the organization for L2 essays was generally the same. Student 4, whose scores for both the L1 and L2 writing

assessments were the second lowest among the others, described the organization as a greeting, summary of the text, and body. However, her and Student 6's writings were the most organized in that they followed the organization used in English writing: thesis statement, presentation of main points included in the thesis statement, and conclusion. Also, the top two, Student 2 and 5, and the bottom L1 writers, Student 3, possessed the most extensive knowledge on the text organization. They noted that Japanese writing postponed stating the thesis until the conclusion unlike English writing which presents a thesis statement at the beginning and end of the essay. In their conceptualization, an introduction consisted of an overview of the essay and presentation of a theme.

L2 Task Knowledge. On the question of the awareness of the audience, only two students, Student 3 and 5, answered that they bore the reader in mind when composing in L2; whereas, only two students, Student 1 and 4, answered they did not care for the reader when composing in L1. In other words, Student 1 and 4 reported that they were not concerned about the audience when writing in L1 or L2, Student 2 and 6 responded that they were aware of the reader in L1 but not in L2, and Student 3 and 5 claimed that they composed in both L1 and L2 with the reader in mind. Student 1, who was at the mid-level in both L1 and L2 writing assessments, explained that he focused more on grammatical rules rather than the message. He admitted that he was too occupied with grammar to think about the reader.

On the other hand, Student 4, who was less successful in writing assessments in either language, did not seem to know the concept of the audience. She seemed to comprehend the question as whether or not she actually thought about the person she was writing to instead of adjusting her idiosyncratic language to be understandable for the possible readers as she stated as follows:

When I am writing a letter or something, because I am going to send it to a particular person, in that kind of situation, I often remember the person while I am writing. But for a report or something like that, I don't think about [any readers].

Student 2, the more successful writer, simply stated that he did not consider the reader, but Student 6 reported that her primary concern was whether or not she could write rather than communicating the message to the reader. Both of their responses on the same question in L1 showed that they were conscious about the reader since Student 2 mentioned that he would define any technical words for the reader, and Student 6 answered that she was concerned about attracting the interest of the reader. However, this L1 task knowledge was not transferred to L2 writing.

Lastly, Student 3, who was more successful in L2 than the L1 writing assessment, reported that he belonged to an English speech club at the university, so he was always aware of the audience. He emphasized the importance of clarity of his expressions and the accuracy of language use, and he noted that these aspects were shared between L1 and L2 writing. Meanwhile, Student 5, a less successful L2 writer, reported that she was concerned that her message was not conveyed properly although she was aware of the reader. As noted earlier, their conceptualization of the text organization was shared across languages.

L1 Strategy Knowledge. The first question on L1 strategy knowledge was on planning prior to composing. For this particular knowledge, half the students, Student 1, 4, and 5, reported that they did not write down any form of an outline, but developed a brief plan in their mind. Student 3, whose L2 writing score outperformed that of L1, reported that he would write down ideas on paper, and composed, looking at the list. On the other hand, Student 2, one of the strongest L1 and L2 writers, answered that he would devise a brief outline and write down main points on paper.

The second question on L1 strategy knowledge was on what they would do when they stop writing. The responses on this question applied to the theory presented by Flower and Hayes (1981), who argued that the reason a writer stops writing is to plan what to write next. All of the students reported an identical answer: they stopped to

think about the next move. Additionally, each student further provided slightly different descriptions of their actions. Student 5 and 6, who were both successful in L1 but not in L2 writing assessment, reported that they stopped writing to brainstorm ideas. Student 1, who showed moderate level of writing skills in both languages, added that he tried to remember what he had planned to write initially; whereas, Student 4, whose writing scores were also moderate level in both languages, mentioned that she would think about the further plan and determine what should come before the idea. Again, Student 2 and 3, the strongest and weakest L1 writers, expressed a similar idea. They both mentioned that they would reread their composition to examine the track of logic.

The last question was on revision process. The response of Student 2 is missing. All the other students mentioned that they would reread the whole essay, and check the flow of logic. As Student 6 stated:

“[I would look at] the flow of logic, and add [any necessary information]. (The interviewer asked if the content was her primary concern) Yes“.

All the students were relatively successful on the L1 writing assessment, and their strategy for revising applies to the model of a proficient writer described in Flower and Hayes (1981): checking the global message of the prose before revising language use.

L2 Strategy Knowledge. The strategy which was less likely to be changed across languages was this strategy knowledge on planning before writing. Only Student 3 mentioned that he listed up ideas in L1, but in L2, he switched to planning mentally. The other students, except Student 2 and 5 responded that they created a brief plan mentally in both L1 and L2 writings. Although Student 5 demonstrated high performance in L1 writing and moderate performance in L2, Student 5, seemed to be unaware of an outline as she stated:

Yes...I remember I was told to use [words like] finally and second. [The teacher told us that we] have to use them. I only try to do that... What is an outline? I do. If I was told to write and had enough time, I could write, but if I was told to write in a limited time, I'm like, I have to write whatever I can think of.

Student 2 reported that he wrote down main points on paper when writing in either language, and he was the student who demonstrated the highest level of achievement in both writing assessments.

For the second question on the cause that stops a writer from writing, a clear trend was observed. The students were concerned that ideas conceived in Japanese often cannot be expressed in English. Student 3 reported as follows:

The cause [which prevents me from writing] is that I cannot translate the ideas I had in Japanese into English. I cannot come up with vocabularies, or didn't know the expressions.

The strategy which Student 1, 3, 5, and 6 used to solve this issue was to find different expressions in L2. Similarly, Student 4 mentioned that she would modify the original sentences created in Japanese in order to accommodate her L2 language level, and her description seemed to be what the former four students actually meant because they tried to find L1 expressions which their L2 language ability allows them to express. Therefore, all the moderate and low-level L2 writers seemed to implement the same strategy.

On the other hand, the more successful writer, Student 2, reported that he would look at the whole essay, and reconsider the connection of ideas as he would do when writing in L1. This process is a translation stage in Flower and Hayes (1981), which is translating the abstract concepts into words, and this ability is trained by formal writing instruction according to Krashen (1984). The result of the questionnaire revealed that the students rarely enjoyed reading L2 texts for pleasure nor did they receive L2 writing instruction; therefore, assumingly, *competence* and *performance* advocated by Krashen (1984) have not been acquired by the majority of the students. Nevertheless, the transfer of the writing skills across languages seemed to have occurred for the student who gained high scores in both L1 and L2 writing assessments.

The last question was on revision process. For this particular knowledge, the students again agreed that they focused on accuracy in language use. The global issue, the content, was considered to be the most crucial aspect for L1 writing, but the concern was shifted to more local issues such as spelling and grammar for second language writing. Accordingly, the students seemed to change from a experienced writer, who reviews the appropriacy of the logic, to an inexperienced writer, who confuses revising with editing and focuses on language use, when writing in their L2. This might be due to the primary focus of accuracy in the Japanese educational system, and as they reported that they cannot translate their ideas into words when writing in L2; thus, what they could manage was to edit as Student 3, who belongs to an English speech club at the university stated:

I check whatever I can check...like articles, personal pronouns, and numbers. Plural or singular. I often check those items. After that, I ask an English speaker to take a look of [my writing]. I still make mistakes when using a or the. I think my understanding is getting better, but I still miss them sometimes. Also, what I'm often corrected is that long sentences are changed to much shorter expressions after being checked [by the native English speaker]. [S/he] replaces the words with simpler ones. (The interviewer asked about the revision on content). About content...I simply cannot fix it by myself. I don't really understand how I'm supposed to write. I really can't think of questions on the overall organization. What I can check is only grammar. I expect that the native English teacher would fix if the organization was not proper.

Types of writing assigned at a high school and university. The following is the summary of the responses on additional questions, which were on the types of writing assignments in high schools and at a university and the factor which the students thought was the most influential on the development of L2 writing skills.

L1 writing assignments. L1 writing tasks assigned in high schools varied considerably. The most common writing task assigned was a book report, but the rest of the answers were diverse. Student 1 mentioned that he wrote book reports without referring to external sources, and his teacher did not offer any feedback. Student 2, on the other hand, noted that he was never assigned a book report, but was assigned to

write summaries for provided readings and write opinions based on a prepared chart, and his teacher returned feedback on the text organization. Student 3 also mentioned that book reports were the common homework with which no feedback provided. In addition, his Japanese teacher taught how to write a report and required the students to write a thesis, but no suggestions for the improvement were specified. Student 4 was also asked to write book reports, and did not receive any feedback. The experience of Student 5 was more exam-oriented. She wrote short essays, which are often employed as an admission test at universities. She was required to sit commercial mock exams for short essays multiple times, and received feedback from the company. Finally, Student 6 reported that she was assigned to write a composition called *sakubun* in Japanese, which students write their personal feeling without referring to any sources, and to write a continuation of a column in a newspaper, and her teacher provided her with comments. In sum, no assignment required references at high school level as expected. Furthermore, although the students have experienced various L1 writing tasks, the commonality among the students who obtained a high score on the L1 writing assessment was that they received feedback on their writings.

At the university, the students were assigned with the same type of L1 writing task: reports. All of them are required to cite outside sources, but they mentioned that no feedback on their reports was offered.

L2 writing assignments. L2 writing tasks assigned in high schools differed among the students as well. The most common task, though only three students reported this, was to translate short sentences from Japanese to English. Student 1 reported that he wrote a short book report on a graded reader as a summer homework, and wrote a short report on information which he found and on prepared data as extracurricular exercises, though he did not receive any feedback on them. He mentioned that his English teacher could include these activities because he was in the

private high school attached to the university, so there was more room for English writing as he explained as follows:

It was not that long, but in a summer vacation, homework to read a small English book like Penguin [Readers], about 40 pages, was assigned. About reports, there was one report that I had to do research, and [for another homework,] I was given data and assigned to write about 300 words on what I could read from the data...My high school was Soka High School, so we had more spare time in the last semester, and I could tell that our English teacher was intentionally trying to incorporate English writing in instruction.

Student 2 mentioned that his English teacher assigned summaries of news articles and an optional assignment to write an opinion on the articles with no references required. Feedback was provided. Moreover, Student 6 on the other hand, was assigned to write diaries and discuss some topics, although the teacher did not return any comments. Unlike their experiences, the writing tasks Student 3, 4, and 5 experienced was to translate short sentences. These differences of writing experiences might be due to the necessity of preparation for university entrance exams as Student 1 noted, and these experiences seem to considerably influence the approach of these students toward English writing. For example, Student 3 earlier reported that his strategy to read L2 texts was to analyze syntax, and he used the specific term “slash reading”, which is often taught as a strategy for English reading tests in university entrance exams. Student 4 reported that she first wrote a whole composition in Japanese, and translated this composition into English. Student 5, who reported the extensive practices in L1 short essays as an exam preparation, was pessimistic about the possibility of being able to think and compose in L2 while the other students mentioned that they would like to be able to think and compose in English. The last two students, Student 4 and 5, obtained the lowest scores among the advanced level interviewees, and Student 3 was about 10 points higher than Student 4 and 5, although Student 3 experienced the same type of L2 writing as these two students did in high

school. This difference could be because Student 3 prepares English speeches for his club activity, and his seniors and a native English teacher reviewed his scripts.

The situation for L2 writing tasks at the university was similar: they have not been required to write an essay in English. Student 1 and 2 reported that they developed a two-page script for a presentation, and Student 4 and 5 mentioned that they wrote short reflection on their visits to a self-access center where intermediate and advanced level students practice English conversation. Student 6 reported no writing in her class, and Student 3 wrote scripts for speeches as mentioned earlier. Consequently, the assumption is that the students who achieved higher scores in L2 writing, Student 2 and 3, were those who have composed in L2, and more importantly, received feedback from their instructors.

Students' perceptions on the contributant for the development of L2 writing skill.

Lastly, each student was asked to choose one factor which aids the improvement in L2 writing skill. The students who were not provided with any feedback on their writing selected various factors. However, regardless of the language used in writing, those who had gained feedback on their compositions, Student 2, 3, and 5, indicated the experience of writing instruction was the strongest factor for development of their L2 writing skill.

Discussion

The present study explored the L1 and L2 reading-writing relationships based on Carson et al. (1990), and factors contributing to proficient L2 writing skills based on Krashen (1984). As theoretical backgrounds of these relationships, several hypotheses were integrated. For the holistic understanding of intralingual transfer, shared domain knowledge of reading and writing argued by Fitzgerald and Shanahan (2000) was considered. Further, the L1 intralingual relationship was based on Krashen (1984), and this theory was applied to the L2 intralingual relationship as well. Moreover, for the holistic understanding of the interlingual transfer, the interdependence hypothesis

presented by Cummins (1994) was incorporated. Additionally, the interlingual transfer of reading skills was speculated in terms of short circuit hypothesis advocated by Clarke (1980). Finally, Flower and Hayes' (1981) cognitive process theory of writing hypothesis was adopted for the L1 writing process, and this writing process was expected to be applicable to L2 writing if the interdependence hypothesis was valid. These relationships were further investigated in terms of metacognitive strategies which students use for reading and writing across languages.

There were four phases in this research: a correlational analysis to compare the results of the assessments, a *t* test to compare the groups of different L2 proficiency levels on each assessment, a questionnaire, and interviews. The first two phases addressed the four research questions on intra- and interlingual transfer of the skills. The results indicated that both reading and writing skills could be transferred across languages, but the intralingual transfer seemed to have occurred only in L2. In other words, no relationship was found between L1 reading and writing skills. This result contradicts with past studies which indicated that more successful L1 readers were also effective L1 writers.

The cause of this contradiction might be the difficulty of the L1 reading assessment employed in this study because the average score of the L1 reading assessment was significantly lower than the other assessments. However, this result of the lower score of the L1 reading assessment seemed to be caused by the combination of the type of the reading assessment adopted for this study and different approaches students employ for L1 and L2 reading tasks respectively. The reading assessment was a recall protocol which requires that students reconstruct a text immediately after reading the text. From the interview data, the tendency to focus on gist for L1 reading and on language for L2 reading was observed. Consequently, the students gained lower score on the L1 reading assessment because they might focus on overall message of the

text while they gained higher score on the English reading assessment because of their inclination to focus on details of the text in L2. In recall protocol, it appears that the ability to provide details results in higher scores.

The more likely cause of no correlation between Japanese reading and writing skills seems to lie in the distinct characteristics of the elementary level group. The elementary level group consisted of juniors and seniors while the other two groups consisted of freshmen. It could be assumed that the freshmen who were able to obtain higher score in the TOEIC test were academically successful in their high schools where memorization and grammar-translation were prevalent. Likewise, it seems fair to say that students who enrolled in an elementary level English course in their junior and senior years might have been less successful in their high school English courses, and intensive memorization of grammar and vocabulary might not have been compatible to those students. Accordingly, the elementary level group may have been disadvantaged by the recall protocol methodology. Meanwhile, since it could be assumed juniors and seniors had experienced writing tasks in Japanese as assignments at university, the L1 writing assessment might not have been as problematic as the reading assessment to the elementary level group. Possibly, because of this unequal relationships of L1 reading and writing skills of this particular group, a correlation between L1 reading and writing skills was not found.

On the other hand, there was a positive correlation between L2 reading and writing skills. L2 language knowledge seems to contribute to this outcome because extensive linguistic knowledge would help students comprehend L2 texts and express their thoughts in writing. Students who gained higher scores on the achievement test could be assumed to have developed a wider range of knowledge in English grammar and vocabulary. In fact, although only L2 reading skills showed a significant difference

between the intermediate and advanced level groups in *t* test, L2 language proficiency indicated strong influences on both L2 reading and writing skills.

In addition to L2 linguistic knowledge, Fitzgerald and Shanahan (2000) pointed out that *metaknowledge*, including monitoring for comprehension and language produced, is shared between cognitive domains of reading and writing. In the interviews, students answered that they were able to assess their understanding of a text while reading, and pay attention to language use in their English composition. Another category of shared knowledge is *procedural knowledge* and *skill to negotiate reading and writing* (Fitzgerald and Shanahan, 2000), and this knowledge contained skills to utilize background knowledge and to think actively such as questioning. Regarding incorporation of schemata, the interviewees except one student responded that they were able to use background knowledge when reading, and most of the writing samples collected seemed to include knowledge and experience related to the topic. Most of the interviewees were also confident in their ability to question the author when reading, but little cognitive space seemed to be spared for questioning the validity of students' own argument in their English composition as some interviewees reported.

Furthermore, unlike the results reported by Carson et al. (1990), writing skills were found to be more easily transferable than reading skills in the current study. This could be due to the emphasis on test preparation in Japanese high schools. Japanese and English reading are taught as subjects at school, and the skill to infer the intention of the author is often required in Japanese reading tests; whereas, the skill to recognize answers from the text (Hughes, 1989) and linguistic knowledge are often required in English reading tests in the Japanese educational system. Accordingly, strategies which suit each type of test might have been developed distinctively; thus, they were more difficult to be transferred. On the other hand, for writing, little experience in L2 writing was reported in the questionnaire and the interviews, and because of this limited

expertise, the students might have implemented the knowledge and skills acquired in L1 writing to L2 writing, which in turn, yielded the result that the transfer of writing skills were easier than that of reading. Moreover, the results of the questionnaire indicated that more than half the students in each L2 proficiency level group reported that they had received L1 composition instruction, which is contrary to the assumption that the Japanese students have rarely been taught writing in L1. Therefore, although it had been expected that Japanese students had not obtained training in L1 writing skills which they could transfer to L2 writing skills, the participants of the current study had experienced L1 writing instruction, and the results actually showed that L1 and L2 writing skills were interrelated.

Similarly, the interviews showed that more metacognitive knowledge on writing were shared across languages compared to that of reading. Specifically, the metacognitive knowledge on text organization in *task knowledge* (Victori, 1999) and the perception of a proficient piece of writing in *person knowledge* (Victori, 1999) was shared between L1 and L2 writing. The reported text organization consisted of an introduction, body, and conclusion, and the more proficient writers presented wider knowledge on text organization compared to the less proficient writers. Some interviewees reported that the distinctive characteristic of the text organization of Japanese writing was to present the thesis statement in conclusion. Also, the primary importance for an effective piece of writing in both L1 and L2 was clarity of a theme though not necessarily a thesis statement as in a sense of English writing. Therefore, transfer of some knowledge on writing was found.

However, although transfer of writing skills seemed to be easier than that of reading, the contrastive focus on global strategies for L1 and local strategies for L2 was also observed in metacognitive knowledge on writing. Due to the limited experience in English writing and language knowledge, *strategy knowledge* (Victori, 1999) on L1 and

L2 writing yielded a stark contrast. For *strategy knowledge*, three questions were asked on outlining, causes to stop writing, and revising process. The responses on outlining was the same for L1 and L2 writing, which were to mentally plan; however, the students reported that they would stop to write in order to reflect on content in L1 while they would stop to examine language use for L2 writing, and the concerns on content and language were the same for the process of revising. Therefore, the metacognitive knowledge on writing seemed to follow the same trend as that of reading.

For the last research question on the factors contributing to the improvement of L2 writing skills, the threshold level seemed to be the most influential factor. In particular, the difficulties of translating ideas into words in L2 were reported by all the students in the interviews. In order for a writer to express ideas in a written form, substantial linguistic knowledge and skills to transform abstract concepts into language are necessary according to Krashen (1984). Therefore, in addition to extensive L2 linguistic knowledge, the present research suggests that the threshold level in the field of writing might include Krashen's (1984) *competence* and *performance*, which are a body of knowledge in reader-based expressions and skills to convert abstract concepts into a written form. Although the inputs from reading had been expected to influence the achievement level of L2 writing skills, because there was no significant difference in time for pleasure and academic reading in L2 between the intermediate and advanced level groups, the relationship remains uncertain. Nevertheless, the data suggested that the students might not have acquired either *competence* or *performance* (Krashen, 1984) because the students reported almost no time for L2 pleasure reading, and the majority of the students reported that they had not received any L2 writing instruction. On the other hand, since a larger number of the students had received L1 writing instruction and read Japanese texts for pleasure, the students might have acquired *competence* and *performance* in Japanese though these assumptions also remain a matter of speculation.

Theoretically, *performance* was assumed to be shared across languages based on the interdependence hypothesis, and the possible impediments of transfer of *performance* might be again the L2 threshold level as well as the lack of experience in writing an essay in L2 to see the connection between L1 and L2 writing. Nonetheless, the possibility of lack of *performance* in L1 cannot be rejected because feedback from the instructor seemed to be scarce according to the interviewees.

Lastly, although this observation is only based on interviews, the perception of a proficient L2 reader is worth noting. The responses on this question concentrated on the innate qualities rather than abilities. This conceptualization might be because of the exam-oriented and teacher-centered instruction in Japan; the perceptions of students on what they can do in English could be dominated by test results assigned by teachers. Furthermore, since preparing for tests is often demanding for many students, they could possibly believe that students who could succeed in exams are intelligent or those who could persist in their study were born to be diligent. As a result, they might conclude that those who were not born with these qualities are hopeless because they are not aware of the fact that there are strategies they could learn to be effective learners, and that language learning is not only about memorization but also about skills training.

Implications

For this particular university, a series of elective process-oriented English writing courses should be offered to the students. Because feedback on writing seemed to be insufficient yet crucial for the improvement of writing skills, students should be provided with feedback from the instructor during the process of writing. In addition, non-native writing instructors should exploit the resource of students' L1 if they share the first language; whereas, native-English speaking instructors who are unfamiliar with Japanese educational system should be aware of the different strategies Japanese students might employ for L1 and L2 reading and writing tasks. Finally, both types of

instructors should note that Japanese students might underestimate their abilities because of their past language learning experience.

These recommendations could be applicable to other universities in Japan because the current research site shares common characteristics of Japanese universities. The majority of the students are Japanese students who experienced six years of secondary education in Japan where English is taught through the grammar-translation method with the heavy emphasis on memorization and exams. English education starts from the first year of junior high school though the new educational policy mandates that elementary schools incorporate English communication classes. Japanese and English are taught as subjects, and it is possible that many Japanese university students have not been offered opportunities to realize the compatibility of Japanese reading and writing skills with English counterparts.

First of all, extensive reading should be encouraged because there was a positive correlation between L2 reading and writing in this study. Extensive reading should be accompanied with summary writing in L1 for at least at beginning or at lower L2 proficiency level students as Mason and Krashen (1997) recommended. A significantly higher achievement of the cohort which had completed summary writing in L1 on writing and reading speed was reported by the authors. In addition, Grabe (2001) pointed out instant results cannot be expected from extensive reading regardless of high demands of work on students; therefore, the courses should be elective and sequential. As longitudinal efforts are required, the purpose and possible outcome should be emphasized through the explanation of connection between reading and writing skills.

Secondly, awareness-raising on reading and writing strategies should be incorporated to improve the skills themselves and to build confidence in students. Since there were correlations between L1 and L2 reading and L1 and L2 writing, Japanese reading and writing skills could be utilized in English writing instruction. Extensive

reading and summary writing are the critical components of this suggested approach; thus, ineffective English reading strategies might cause difficulty in reading extensively and in identifying text gist to be summarized. Because both the results of the reading assessments and interviews suggested that the students were inclined to be occupied with bottom-up information when reading English texts, their effective Japanese reading strategies should be highlighted. Students should be made aware that Japanese and English reading skills are interrelated, and that they might have acquired proficient L1 reading strategies applicable to L2 reading. Some students could be assuming that innate qualities are necessary to be a proficient English reader as some interviewees indicated.

Moreover, the current study referred to the cognitive writing theory advocated by Flower and Hayes (1981), assuming that the writing process would be universal regardless of the superficial linguistic differences based on Cummins (1994). In fact, the strategies reported by the Japanese students for L1 writing were the same as the strategies used by experienced writers indicated by Flower and Hayes (1981), which was to focus on global message; however, for L2 writing, these effective strategies were replaced with strategies used by novice writers who are primarily concerned with language use. As Carson et al. (1990) noted that the writing instructor should not assume the automatic transfer of L1 to L2 writing skills, students should be provided with opportunities to recognize their L1 and L2 writing strategies to compare the similarities and differences of the strategies employed. Then, the commonalities of L1 and L2 writing should be explained so that the students could notice that their effective L1 writing strategies could be applied to L2 writing, and be attentive to modify any ineffective strategies with emphasis that they might have already acquired strong writing strategies in Japanese. This might persuade students that they could be effective English writers.

Thirdly, a strategy of utilizing dictionaries is singled out as of importance as a metacognitive strategy, and the instruction should clarify when and how to use them. Many students who cooperated in the interviews indicated the difficulties in expressing their thoughts in L2 writing. Therefore, in addition to extensive reading, the use of a variety of dictionaries should be encouraged: a monolingual dictionary, synonym dictionary, and collocation dictionary. Victori (1990) reported that the more proficient writers utilized both bilingual and monolingual dictionaries and were eager to expand their vocabulary. Thus, the instructor should explicitly explain the value of using dictionaries and different usages of each dictionary. A synonym dictionary should be introduced to train the students to use diverse expressions. A collocation dictionary can help students to expand their language, and also proper use of preposition could be reinforced. These dictionaries are offered free of charge on the Internet, and the instructor should demonstrate how to use these dictionaries to students. Nevertheless, concerning the finding that students use bottom-up strategies for English tasks, explicit instruction on the purpose and timing of using these dictionaries should be offered.

Both non-native and native English speaking instructors should be aware of and exploit the possible resource of L1 reading and writing skills and metacognitive knowledge which students might have already acquired. For non-native English speaking instructors, their shared L1 could be a further advantage for instruction because Japanese could be the additional sources of teaching materials such as allowing students to write summaries in L1 and finding L1 texts usable for comparative purposes. For native English speaking instructors, if they were not familiar with the educational background of Japanese students and its influence, this research could inform of them of these two points. Students might have acquired effective reading and writing strategies in L1, and that they might employ different strategies for two languages. The instructors could judge which strategies they need to train fundamentally or induce

transfer. Moreover, both native and non-native English speaking instructors should realize that Japanese students might have developed a false belief that innate capacity is prerequisite to be a proficient English learner possibly because of the education they have received. Therefore, training of students should emphasize awareness-raising on interrelatedness of L1 and L2 reading and writing skills to build confidence in students and to develop effective skills so that students could continue to grow as language learners.

For future research, the limitations of the present study should be considered. There were limitations of the age difference of the L2 proficiency level groups and the difficulty of the L1 reading assessment. Because of the differences of the academic year of the students, the factors which caused no correlation between Japanese reading and writing remained uncertain. Also, the passage used for the Japanese reading assessment should be drawn from non-technical sources in order to eliminate the possible intervention of the text into recalling. Although this research was conducted to validate the result of the study conducted by Carson et al. (1990), the methodologies were distinct from their study. Therefore, the outcome of the present research should be examined with the improvement on the limitations presented.

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Appendix A

Sample Consent Form for the Questionnaire and Reading and Writing Assessments

リーディング・ライティングの関係に関する調査

調査内容および調査協力同意書

この度行われます調査へのご協力をお願いします。調査者は創価大学文学研究科国際言語教育専攻英語教育専修所属福田衣里 (tel: 080-5473-5870; email: e09m3203@soka.ac.jp) です。創価大学ワールドランゲージセンター所属ローレンス＝マクドナルド准教授 (tel: 042-691-9598; email: mac@soka.ac.jp) 指導のもと研究をしています。

今回の研究の目的は、英語と日本語でのリーディングとライティングの関係、さらに読書習慣と小論文指導の経験を調査することです。これらの関係を調べることで、英語教育の向上に貢献することを目標としています。

この調査に関してご質問がある場合は、創価大学ワールドランゲージセンター所属ローレンス＝マクドナルド准教授 (email: mac@soka.ac.jp) に連絡をしてください。

本調査で集められた情報は、パスワードで保護されたコンピュータに保存し、厳重に扱われます。情報の処理段階では参加者は特定可能ですが、情報処理後、氏名・学籍番号は削除され、代わりに新しく符号が付けられます。これにより参加者は調査者にも特定できなくなります。また、調査者と指導教官のみが情報を閲覧することができます。

本調査への参加は自由意志に基づくもので、参加を拒否しても授業評価などへの影響は全くありません。

私、 _____ (楷書で名前を書いて下さい) は上記の説明を読み、その内容を理解しましたので、本研究に参加することを同意します。

本人 署名

本人 学籍番号

年 月 日

Appendix B

Sample Consent Form for the Interviews

リーディング・ライティングの関係に関する調査

調査内容および聞き取り調査協力同意書

この度行われますインタビュー調査へのご協力をお願いします。調査者は創価大学文学研究科国際言語教育専攻英語教育専修所属福田衣里 (tel:0805473-5870; email:

e09m3203@soka.ac.jp) です。創価大学ワールドランゲージセンター所属ローレンス=マドナルド准教授 (tel: 042-691-9598; email: mac@soka.ac.jp) 指導のもと研究をしています。

本研究の目的は、英語学習者のリーディングとライティングに対する考えを調査することです。このインタビュー調査により、英語教育の向上に貢献することを目標としています。

インタビューには 30 分程度の時間がかかる見込みです。なお、研究データに誤りがないよう、インタビューを録音・録画させていただきます。

今回の聞き取り調査で記録させていただいた音声・映像には、調査者と指導教官以外が触れることはありません。研究成果の報告の際には、個人を特定できるような情報（名前、学籍番号、クラス名など）は削除され、匿名性は厳守されます。

本調査への参加は自由意志に基づくもので、参加を拒否しても授業評価などへの影響は全くありません。全ての質問にお答えになる必要はありません。

また、同意書提出後インタビュー調査への参加を辞退なさりたい場合には、お申し出があればいつでも辞退することができます。

この研究に関してご質問がある場合、また調査結果報告書を希望される場合は、ローレンス=マクドナルド (mac@soka.ac.jp) までご連絡下さい。

私、_____ (楷書で名前を書いて下さい) は上記の説明を読み、その内容を理解しましたので、本研究に参加することを同意します。

本人 署名 _____

本人 学籍番号 _____

年 月 日

Appendix C

Sample Questionnaire

Questionnaire - English and Japanese Reading Habits and Experiences in Writing Instruction

英語と日本語での読書習慣とライティング指導の経験に関するアンケート

This survey is conducted in order to learn about your habits of reading English and Japanese texts as well as your experiences of writing instruction in English and/ or Japanese. Please provide the following information by circling the item or writing your response in the space.

このアンケート調査は、あなたが英文と日本語文を読む習慣と英語と（または）国語の作文指導の経験について尋ねるものです。以下の項目について回答に丸をつけるか、空欄に回答をお書き下さい。

Section I

Habits of reading English texts for pleasure
(娯楽目的で英文を読む習慣)

1. Do you regularly read **ENGLISH** materials for your enjoyment?
定期的に**英語**で書かれた文章を娯楽目的で読みますか？

Circle (丸で囲んでください)	
YES	NO

2. If yes, how often do you read? If no, please answer question number 4.
読む場合、どのくらいの頻度で読みますか？読まない場合、質問4をお答え下さい。

Example: If you read twice a week (例：もし週に二回読む場合)				
Indicate number (数字を書いて下さい)	(毎)	Circle (丸で囲んでください)		
2	times (回)	per	week(週)	month (月) year(年)

あなたの回答

Indicate number (数字を書いて下さい)	(毎)	Circle (丸で囲んでください)		
	times	per	week	month year

3. If you read weekly, how much time do you spend for reading English texts per week?
毎週読む場合、週にどれくらいの時間を英語の文章を読むのに費やしますか？

Example: If you read thirty minutes per week (例：もし週に30分読む場合)		
Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)	
30	minutes (分)	hours (時間)

あなたの回答

Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)	
	minutes	hours

Section II

Habits of reading Japanese texts for pleasure
(娯楽目的で日本語文を読む習慣)

4. Do you regularly read **JAPANESE** materials for your enjoyment?
定期的に**日本語**で書かれた文章を娯楽目的で読みますか？

Circle (丸で囲んでください)	
YES	NO

5. If yes, how often do you read? If no, please answer question number 7.

読む場合、どのくらいの頻度で読みますか？読まない場合、質問7をお答え下さい。

Indicate number (数字を書いて下さい)	(毎)	Circle (丸で囲んでください)		
times	per	week	month	year

6. If you read Japanese materials weekly, how much time do you spend for reading per week?

毎週読む場合、週にどれくらいの時間を日本語の文章を読むのに費やしますか？

Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)	
	minutes	hours

Section III

Habits of reading academic English texts (英語で書かれた学術的な文章を読む習慣)

7. Do you read **ENGLISH** academic texts (e.g. journals, books, including textbooks, and readings of TOEFL and other language tests)?

英語で書かれた学術的な文章を読みますか（学術論文や学術書など。教科書、TOEFL など英語試験のリーディングも含む）？

Circle (丸で囲んでください)	
YES	NO

8. If yes, how often do you read? If no, please answer question number 10.

読む場合、どのくらいの頻度で読みますか？読まない場合質問10をお答え下さい。

Indicate number (数字を書いて下さい)	(毎)	Circle (丸で囲んでください)		
times	per	week	month	year

9. If you read English academic texts weekly, how much time do you spend for reading per week?

毎週読む場合、週にどれくらいの時間を英語で書かれた学術的文章を読むのに費やしますか？

Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)	
	minutes	hours

Section IV

Habits of reading Japanese academic texts (日本語で書かれた学術的な文章を読む習慣)

10. Do you read **JAPANESE** academic texts (e.g. journals, books)?

日本語で書かれた学術的な文章を読みますか（学術論文や学術書など）？

Circle (丸で囲んでください)	
YES	NO

11. If yes, how often do you read? If no, please answer question number 13.

読む場合、どのくらいの頻度で読みますか？読まない場合質問13をお答え下さい。

Indicate number (数字を書いて下さい)	(毎)	Circle (丸で囲んでください)		
times	per	week	month	year

12. If you read English academic texts weekly, how much time do you spend for reading per week?

毎週読む場合、週にどれくらいの時間を日本語で書かれた学術的文章を読むのに費やしますか？

Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)	
	minutes	hours

Section V
Experiences of English essay writing instruction
 (英語小論文指導を受けた経験)

13. Have you ever experienced **ENGLISH** essay writing instruction?
 今まで英語の小論文の書き方を授業で学んだことがありますか？

Circle (丸で囲んでください)	
YES	NO

14. If yes, in what institution have you learned English essay writing? If no, please answer question number 17.

ある場合、どのような教育機関で英語小論文指導を受けましたか？無い場合質問 17 をお答え下さい。

Example: If you have experienced writing instruction at Japanese university...			
(例：もし日本の大学で英語小論文の授業を受けたことがある場合)			
Circle whichever apply (当てはまるもの全てに丸を付けてください)			
high school (高校)		university (大学)	
in Japan (日本で)	overseas(海外で)	in Japan	overseas
language school (語学学校)		cram school (塾)	
in Japan	overseas		

あなたの回答

Circle whichever apply (当てはまるもの全てに丸を付けてください)			
high school		university	
in Japan (日本で)	overseas(海外で)	in Japan	overseas
language school		cram school	
in Japan	overseas		

15. If you have learned English essay writing, how long did/have you learn/ learned?

もし英語小論文指導を受けたことがある場合、どのくらいの期間学んでいますか (学びましたか) ?

Example: If you have learned English writing for one year at university				
(例：もし1年間学んでいる場合)				
institution (教育機関)	Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)		
university	1	day(s)	week(s)	month(s) year(s)

あなたの回答

Circle (丸で囲んでください)				
institution (教育機関)	Indicate number (数字を書いて下さい)			
		day(s)	week(s)	month(s) year(s)
		day(s)	week(s)	month(s) year(s)

16. If you have experienced English essay writing instruction, what kind of class(es) have you taken?

もし英語小論文の指導を受けたことがある場合、どのようなクラスを受けましたか？

Please specify (授業名をお答えください。正確でなくてかまいません): (例 : EAP, ゼミ, 大学受験対策小論文指導など)

Section V

Experiences of Japanese essay writing instruction (国語作文指導を受けた経験)

17. Have you ever experienced **JAPANESE** essay writing instruction?

今までに日本語の小論文の書き方を授業で学んだことがありますか？

Circle (丸で囲んでください)	
YES	NO

18. If yes, in what institution have you learned Japanese essay writing? If no, this is the end of the questionnaire. Thank you very much, and please wait.

もしある場合、どのような教育機関で小論文指導を受けましたか？無い場合アンケートはこれで終了です。ありがとうございました。少々お待ち下さい。

Circle whichever apply (当てはまるもの全てに丸を付けてください)	
high school	university

19. If you have learned Japanese essay writing, how long did/have you learn/ learned?

もし小論文指導を受けたことがある場合、どのくらいの期間学んでいますか (学びましたか) ?

institution (教育機関)	Indicate number (数字を書いて下さい)	Circle (丸で囲んでください)			
high school		day(s)	week(s)	month(s)	year(s)
university		day(s)	week(s)	month(s)	year(s)

20. If you have learned Japanese writing, what kind of class(es) have you taken?

もし英語小論文の指導を受けたことがある場合、どのようなクラスを受けましたか？

Please specify (授業名をお答えください。正確でなくてかまいません): (例 : EAP, ゼミ, 大学受験対策小論文指導など)

Thank you very much for your cooperation!

Appendix D

Sample L2 Writing Prompt

Some students like classes where teachers lecture (do all of the talking) in class. Other students prefer classes where the students do some of the talking. Which type of class do you prefer? Give specific reasons and details to support your choice. (教師が講義をする (授業時間内ずっと教師が一人で話し続ける) 授業が好きな生徒もいれば、生徒も意見を述べることができる授業を好む生徒もいます。あなたはどちらのタイプの授業が好きですか。具体的な理由と詳しい説明を挙げてあなたの意見を述べて下さい。)

Appendix E

Sample L1 Writing Prompt

海外へ移り住む際、移住先の国の習慣に従う人もいれば、自国の習慣を守り続ける人もいます。これらの二つの選択肢を比べると、あなたにとってどちらのほうがより好ましいですか。具体的な詳しい説明を添えてあなたの答えを裏付けて下さい。

(When people move to another country, some of them decide to follow the customs of the new country. Others prefer to keep their own customs. Compare these two choices. Which one do you prefer? Support your answer with specific details.)

Appendix F

Sample Direction for Recall Protocol

受験上の注意
Directions

1. これから英語の文章を読んでもらいます。読み終わったら、その内容に関して要約するのではなく、覚えていることをできるだけ多く日本語で書いてください。ただし、書き始めた後本文を見直すことはできません。

(You will read an English text. After reading, please do **NOT** summarize but write down **everything you can remember** from the text **as much as possible in Japanese**.)

Note: You cannot read the text again after you start writing.)

2. 覚えていることを書く際には、箇条書きではなく、文章形式で書いてください。

(When you write what you remember, please do not itemize, but write **sentences**.)

3. 読む時間と書く時間は別々にとってあります。読む時間は5分、書く時間は10分です。

(You will have time for reading and writing separately. **Reading time is 5 minutes** and **writing time is 10 minutes**.)

4. 読んでいるときメモをとらないでください。

(Please do **NOT take notes** while you are reading the text.)

5. 辞書は使用できません。

(You cannot use a dictionary)

Appendix G

Sample L2 Recall Protocol

A New Idea

Something new that the Chinese were using was money crafted from paper. Why had the Chinese come to use paper money? One possible explanation is related to the supply of metal. Metal is needed to make coins, and the Chinese did not have a big enough supply of metal to make coins for all of the people in China. The Chinese had already invented paper, and they had already invented a method of printing paper. When the Chinese needed something to make into money and they did not have enough metal, they used paper to make money.

And how do you think the Chinese government got the Chinese people to accept printed paper as money? The Chinese government issued an order saying that the paper money it created was to be used by everyone in China. At first, people were worried that paper money would not have any value, and they did not want to use the paper money. However, the government of China was a very strong government, and people had to follow the order to use paper money. After a while, people saw that they could use paper money to buy anything, and they began to accept paper money.

Appendix H1

Sample L1 Recall Protocol

チームの能力を左右する社会的感受性

グループで仕事をする場合、切れ者が1人いても成績にさほど影響がないということが、“集団的知性（さまざまな仕事を集団でうまくこなす能力）”を計測する初の研究で明らかになったという。視覚パズルや希少な資源を巡る交渉など頭を使う作業をグループで行う場合、個人の頭の良さは作業の成否にほとんど影響がなく、むしろ“社会的感受性”の高い人がいるグループの方が成功率が高いことが、最近行われた一連の実験でわかった。ここでいう社会的感受性とは、相手の顔色を見て感情を判断できる能力を指す。

集団的知性の専門家として研究を率いたウーリー氏は、グループ内に女性が多いほど成功率が上がる理由もこの実験結果は示していると話す。女性は社会的感受性のテストで常に高得点を挙げるという。

特に優れたグループでは、より多くの方が交代で発言して議論に参加した。「特に西洋文化では個人の知性や実績を非常に重視するが、世界が平準化し相互交流が活発になるにつれて、個人が独りで何ができるかよりも、集団で何ができるかを考えることが重要になる」。

集団の成否が予測できれば、実生活の様々な場面で有用な指針となるかもしれない。特にビジネスや軍事など、コンセンサスに基づいて意思決定を行うことの多い分野では有効だとウーリー氏は指摘する。例えばベンチャービジネスの立ち上げなど、「結果が不十分だとコストが高くつく」ような高リスクの状況では、集団的知性のレベルを知ることは重要だという。

Appendix H2

Sample L1 Recall Protocol (translated)

Smarter Teams Are More Sensitive, Have More Women?

Being one smart cookie doesn't matter much if you're working in a group, according to the first study to calculate collective intelligence—a group's ability to succeed at a variety of tasks. Surprisingly, in a team an individual's smarts has little to do with success in thought-based tasks such as visual puzzles and negotiating over scarce resources, a battery of recent experiments found.

Instead, a group is more successful if it contains people who are more "socially sensitive"—in this case meaning they're better able to discern emotions from people's faces. That also explains why groups with more women—who consistently score higher on tests of social sensitivity—were more likely to excel, said study leader Woolley, an expert in collective intelligence. Particularly intelligent groups also had more people who took turns speaking, according to the study. "There's such a focus on individual intelligence and individual accomplishment, especially in western culture". "As our world becomes flatter and more interconnected, it's not as important to consider what an individual can do by themselves but what they can do collectively."

This ability to predict group success may offer guidance in real-life situations—especially as more decisions in fields such as business and the military are made in consensus-based settings, she said. For instance, knowing a group's collective intelligence could be crucial in a high-risk situation where "suboptimal performance would be costly," such as embarking on a new business venture.

Appendix I

Original Interview Questions Developed by Victori (1999)

Was it a problem for you to think loud?

What is your idea of good writing and of a good writer?

Do you think you are a good writer in English? And in your mother tongue?

Do you usually enjoy writing in your L1? And in English?

What kinds of problems do you have when writing?

Have you ever received instruction in how to write in your L1? And in English?

What did the instruction consist of? And in your L1?

What did your instructor correct or comment about your L1 writing? and about your English writing?

Have you done any kind of planning before starting to write?

Do you usually plan?

Do you always know ahead what you are going to write about?

Do you think planning ahead is a useful strategy?

Do you ever write outlines before writing?

Do you plan each paragraph and the entire essay?

After having written your essay, do you think you have followed your initial plan?

Apart from planning some ideas, is there anything else you plan?

Do you ever bear in mind who is going to read your essay, that is, your reader?

Have you had any kind of problem while writing? What was the main one?

In this particular point (to be pointed) you stopped writing. Do you remember why?

Do you often stop writing while composing? And what do you do then?

Do you think in Catalan or Spanish or English while writing? Is it good to do so?

How do you think an essay should be organized?

What should each paragraph have? and the introduction? and the conclusion?

Have you revised your essay? Do you always do so?

How do you usually revise your essays?

Do you think this is what you should do?

When did you decide your essay was finished?

Appendix J

Sample Request Letter

Dear Mr. / Ms.

My name is Eri Fukuda and I am writing to request a permission to access your class for my master thesis research project. I will explain the purpose and the data collection as well as the degree of access to your class I hope to have.

The purpose of this study is to investigate the factors which influence the development of L2 (English) writing ability. The factors include L2 language proficiency, language input from L1 (Japanese) and L2 readings, L1 and L2 writing instructions, and L1 writing ability upon L2 writing ability. Therefore, the relationships between reading and writing abilities across languages and the relationships across modalities in each language will also be examined.

The data collection will consist of L1 and L2 reading tests, L1 and L2 writing tests, a questionnaire, and interviews. I am planning to use TOEFL as the L2 reading test and the National Center Test as the L1 reading test. TOEFL writing test will also be adopted for the evaluation of writing abilities. Also, I would like to distribute a questionnaire to inquire of the experiences of composition instructions in L1 or L2, and the amount of time spent for pleasure reading and reading academic texts in both languages. Finally, I would like to interview selected students to learn about their perceptions on L1 and L2 reading and writing in addition to the factors which influence the development of L2 writing ability.

This research will take two weeks, including an explanation of the tests for five minutes, a questionnaire survey for 10 minutes, L2 reading and writing tests for 20 minutes each, and L1 reading and writing tests for 20 minutes each in the following week. I would appreciate if you could allow me to conduct the tests in class.

Thank you for the time considering my request, and please let me know if there are any questions you might have.

Sincerely,

Eri Fukuda

Appendix K

The ESL Composition Profile

RANG E	CONTENT CRITERIA	COMMENT S
30-27	EXCELLENT TO VERY GOOD: knowledgeable substantive thorough development of thesis relevant to assigned topic	
26-22	GOOD TO AVERAGE: some knowledge of subject adequate range limited development of thesis mostly relevant to topic, but lacks detail	
21-17	FAIR TO POOR: limited knowledge of subject little substance inadequate development of topic	
16-13	VERY POOR: does not show knowledge of subject non-substantive not pertinent OR not enough to evaluate	
RANG E	ORGANIZATION CRITERIA	COMMENT S
20-18	EXCELLENT TO VERY GOOD: fluent expression ideas clearly stated/ supported succinct well-organized logical sequencing cohesive	
17-14	GOOD TO AVERAGE: somewhat choppy loosely organized but main ideas stand out limited support logical but incomplete sequencing	
13-10	FAIR TO POOR: non-fluent ideas confused or disconnected lacks logical sequencing and development	
9-7	VERY POOR: does not communicate no organization OR not enough to evaluate	
RANG E	VOCABULARY CRITERIA	COMMENT S
20-18	EXCELLENT TO VERY GOOD: sophisticated range effective word/idiom choice and usage word form mastery appropriate register	
17-14	GOOD TO AVERAGE: adequate range occasional errors of word/idiom form, choice, usage but meaning not obscured	
13-10	FAIR TO POOR: limited range frequent errors of word/idiom form, choice, usage meaning confused or obscured	
9-7	VERY POOR: essentially translation little knowledge of English vocabulary, <u>idioms</u> , word form OR not enough to evaluate	
RANG E	LANGUAGE USE CRITERIA	COMMENT S
25-22	EXCELLENT TO VERY GOOD: effective complex constructions few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions	
21-18	GOOD TO AVERAGE: effective but simple constructions minor problems in complex constructions several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured	

17-11	FAIR TO POOR: major problems in simple/complex constructions frequent errors of negation, agreement, tense, number, word order/function, <u>articles</u> , pronouns, prepositions and/or fragments, run-ons, deletions meaning confused or obscured	
10-5	VERY POOR: virtually no mastery of sentence construction rules dominated by errors does not communicate OR not enough to evaluate	
RANG E	MECHANICS CRITERIA	COMMENT S
5	EXCELLENT TO VERY GOOD: demonstrates mastery of conventions few errors of spelling, punctuation, capitalization, paragraphing	
4	GOOD TO AVERAGE: occasional errors of spelling, punctuation, capitalization, <u>paragraphing</u> but meaning not obscured	
3	FAIR TO POOR: frequent errors of <u>spelling</u> , punctuation, <u>capitalization</u> , paragraphing poor handwriting meaning confused or obscured	
2	VERY POOR: no mastery of conventions dominated by errors of spelling, punctuation, capitalization, paragraphing handwriting illegible OR not enough to evaluate	

Appendix L1

Rating scale for Japanese L1 expository writing by Sasaki and Hirose (1999)

評価	基準		
主題の 明確性	10-9	大変良い	主題が明確である。主題を根拠づけるのに十分な事実が書かれている。事実と意見とを区別して書いている。
	8-6	良い	主題がある程度明確である。主題のための根拠・事実がある程度書かれている。
	5-3	あまり良くない	主題があまり明確でない。主題のための根拠・事実に乏しい。
	2-1	良くない	主題が全く明確でない。
読者に対する 説得力	10-9	大変良い	具体的な根拠・事例が用いられており、説得力がある。読み手が共鳴する内容を持っている。
	8-6	良い	具体的な根拠・事例が用いられており、ある程度説得力がある。読み手が共鳴するような内容が、ある程度書かれている。
	5-3	あまり良くない	具体的な根拠・事例が少なく、あまり説得力がない。読み手に訴えるような内容に乏しい。
	2-1	良くない	具体的な根拠・事例がほとんど用いられておらず、読み手に訴えるような内容が無い。
表現	10-9	大変良い	文が首尾一貫していて、文と文とが、適切につながっている。
	8-6	良い	それぞれの文は首尾一貫しているが、文と文とが適切につながっていない箇所がある。
	5-3	あまり良くない	文が首尾一貫していないことがあり、また、文と文のつながりが、不適切な箇所が多い。
	2-1	良くない	文が首尾一貫していず、文と文のつながりが、非常に不適切である。
構成	10-9	大変良い	段落相互の意味、論理関係が適切で、段落のつながりが、読み手にわかりやすい順序になっている。
	8-6	良い	段落相互の意味、論理関係が、ある程度適切で、段落のつながりが、ある程度読み手にわかりやすい順序になっている。
	5-3	あまり良くない	段落相互の意味、論理関係があまり適切でなく、段落のつながりが読み手にわかりづらい。
	2-1	良くない	段落相互の意味、論理関係が不明で、段落のつながりがわからない。
形式的 言語知識	10-9	大変良い	適切な表記（文字、句読点、送り仮名、漢字使用等）に従っている。正しい意味で語が用いられている。文法の間違いが無い。
	8-6	良い	表記、用語、文法に、ときどき不適切な箇所がある。
	5-3	あまり良くない	表記、用語、文法に、しばしば不適切な箇所がある。
	2-1	良くない	表記、用語、文法が不適切がある。
書き手 の対象	10-9	大変良い	書き手が、自己、社会の事象、及び自己と社会の関係を、認識しようとしている。

認識	8-6	良い	書き手が、自己、社会の事象、及び自己と社会の関係を認識しようとしているのが、ある程度うかがえる。
	5-3	あまり良くない	書き手が、自己、社会の事象、及び自己と社会の関係を認識しようとしているのが、あまりうかがえない。
	2-1	良くない	書き手が、自己、社会の事象、及び自己と社会の関係を全く認識しようとしていない。

Appendix L2

Rating Scale for Japanese L1 Expository Writing by Sasaki and Hirose (1990)

(Translation)

Score	Criteria		
Clarity of the theme	10-9	very good	Theme is clear. Provides sufficient facts to support the theme. Differentiates facts from opinions.
	8-6	good	Theme is somewhat clear. Provides some factors and reasons to support the theme.
	5-3	fair	Theme is not so clear. Provides few facts and reasons to support the theme.
	2-1	poor	Theme is not clear at all.
Appeal to the readers	10-9	very good	Provides concrete and convincing reasons and facts. Very appealing to the reader.
	8-6	good	Provides somewhat concrete and convincing reasons and facts. Appealing to the reader.
	5-3	fair	Provides a few concrete and convincing reasons and facts. Not so appealing to the reader.
	2-1	poor	Provides few concrete and convincing reasons and facts. Not appealing to the reader.
Expression	10-9	very good	All sentences are consistently structured and adequately connected.
	8-6	good	All sentences are consistently structured, but some sentences are inadequately connected.
	5-3	fair	Not all sentences are consistently structured, and many sentences are inadequately connected.
	2-1	poor	Sentences are inconsistently structured and are inadequately connected.
Organization	10-9	very good	All paragraphs are logically connected, and easy to follow.
	8-6	good	All paragraphs are somewhat logically connected, and not difficult to follow.
	5-3	fair	Paragraphs are not logically connected, and difficult to follow.
	2-1	poor	All paragraphs are not logically connected at all, and impossible to follow.
Knowledge of language forms	10-9	very good	Follows appropriate notation (spelling, punctuation, correct use of Chinese characters, etc). Demonstrates mastery of correct word usage and grammar.
	8-6	good	Sometimes makes errors in notation, word usage, and grammar.
	5-3	fair	Often makes mistakes in notation, word

			usage, and grammar.
	2-1	poor	Demonstrates no mastery of notation, word usage, and grammar.
Social awareness	10-9	very good	Demonstrates full awareness of oneself, social phenomena, and the relationship between oneself and society.
	8-6	good	Demonstrates some awareness of oneself, social phenomena, and the relationship between oneself and society.
	5-3	fair	Demonstrates little awareness of oneself, social phenomena, and the relationship between oneself and society
	2-1	poor	Demonstrates no awareness of oneself, social phenomena, and the relationship between oneself and society.

Appendix M

Sample L2 Reading Scoring Slip

		No	No	No	No	No
Idea Units	Score					
a new idea	5					
the Chinese	4					
the reason why paper money was used	2					
paper money	4					
supply of metal	3					
make coins	2					
not big enough	2					
all of the people	2					
invented paper	2					
invented a method of printing paper	2					
the Chinese government	3					
got people to accept	4					
an order	2					
worried	2					
no value	2					
reluctant to use paper money	2					
a strong government	2					
follow	2					
buy anything	2					
began to accept paper money	3					

Appendix N

Sample L1 Reading Scoring Slip

		番号	番号	番号	番号	番号
Idea Units	点数					
チームの能力を左右する(influence the team's ability)	4					
社会的感受性 (social sensitivity)	5					
グループで (in a group)	4					
切れ者が一人 (a smart cookie)	2					
成績 (success)	2					
さほど影響がない(has little do with)	2					
集団的知性(collective intelligence)	3					
集団でうまくこなす能力(a group's ability to succeed)	4					
初の研究 (first study)	2					
視覚パズル (visual puzzles)	1					
希少な資源を巡る交渉 (negotiation over scarce resources)	1					
頭を使う作業 (thought-based tasks)	2					
社会的感受性の高い (higher social sensitivity)	3					
成功率が高い(more likely to succeed)	2					
実験でわかった (experiments found)	2					
相手の顔色を見て(from people's faces)	3					
感情を判断できる能力(the ability to discern emotions)	3					
ウーリー氏 (Wolley)	1					
グループ内に (a group with)	2					
女性が多いほど (more women)	2					
成績が上がる理由 (the reason of higher rate of success)	2					
社会的感受性のテスト(tests of social sensitivity)	2					
女性は常に高得点(women consistently score higher)	2					
特に優れたグループ(particularly intelligent group)	2					
より多くの人 (more people)	2					
交代で発言(took turns in speaking)	3					
西洋文化 (western culture)	2					
個人の知性 (individual intelligence)	2					
実績 (accomplishment)	2					
世界の平準化 (flatter world)	2					
相互交流の活発化 (interconnected world)	2					
集団の成否の予測 (the ability to predict group)	3					

success)						
実生活の場面で (in real-life situations)	3					
有用な指針(guidance)	2					
ビジネス(business)	2					
軍事(military)	2					
コンセンサスに基づいて(consensus-based settings)	2					
意思決定を行う(make decisions)	2					
ベンチャービジネス(a new business venture)	2					
結果が不十分(suboptimal performance)	2					
高くつく(costly)	2					
高リスクの状況(a high-risk situation)	2					