
The Revision Patterns and Intentions in L1 and L2 by Japanese Writers: A Case Study

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This case study investigated the revising patterns and intentions in L1 and L2 of Japanese writers with various writing experiences. Three participants were selected through purposeful sampling to do within-case comparisons. One participant was an experienced writer in both Japanese and English; one was an experienced writer in Japanese, but not in English; the other was an inexperienced writer in both Japanese and English. Using think-aloud protocols, these participants produced two revised essays in Japanese and two revised essays in English. The revised texts, think-aloud protocols, and retrospective interviews were analyzed to identify revision patterns and revision intentions. First, it was found that all three writers produced many more revisions in Japanese than in English. Second, it was found that these writers showed similar revising intentions across languages. These findings were interpreted in terms of revision control structure, which is gained through writing experiences.

Cette étude de cas s'est penchée sur les régularités et les intentions dans la pratique de révision de textes en L1 et L2 qu'ont manifesté des écrivains japonais avec des antécédents différents en matière de rédaction. Trois participants, sélectionnés par échantillonnage expéditif, ont effectué des comparaisons intracas. Un des participants était un écrivain confirmé, ayant de l'expérience en rédaction anglaise et japonaise ; un autre était un écrivain chevronné en japonais, mais pas en anglais ; le dernier était novice en rédaction anglaise et japonaise. Suivant des protocoles de réflexion à haute voix, les participants ont révisé deux rédactions en japonais et deux en anglais. Les textes révisés, les protocoles de réflexion à haute voix et les entrevues rétrospectives ont été analysés pour identifier les régularités et les intentions dans le processus de révision. Les changements apportés aux textes japonais par les trois écrivains ont été beaucoup plus nombreux que ceux apportés aux textes anglais. Par contre, les trois écrivains ont démontré des intentions semblables dans leur révision et ce, pour les textes dans les deux langues. Ces résultats ont été interprétés en fonction d'une structure de contrôle de la révision qui s'acquiert en pratiquant la rédaction.

Introduction

As revision is an essential component of writing (Bartlett, 1982; Murray, 1984), many researchers have investigated how writers change their texts, and a number of characteristics in the revising processes of experienced

writers and inexperienced writers have been discovered in English as a first language (Bridwell, 1980; Faigley & Witte, 1981; Perl, 1979; Sommers, 1980; Stallard, 1974). Although individual differences exist, it has been found that experienced writers tend to revise more frequently and globally than inexperienced writers (also, see Fitzgerald, 1987, for a comprehensive review on revision research in English as L1). The findings in English as L2 writing studies in general are similar to those of English as L1 (Raimes, 1985, 1987; Zamel, 1983), although, as Silva (1993) has explained, some findings of L2 revision studies contradict each other. Another group of studies has investigated the composing process across languages (Chelala, 1981; Jones & Tetroe, 1987; Arndt, 1987; Hall, 1987, 1990; Whalen & Ménard, 1995; Uzawa, 1996). Of particular relevance is Hall's (1987) study that focused on the revising strategies of four advanced ESL students across languages. He found that the students made more revisions in L2 than L1, but that their revision behaviors were similar across languages in that the word level of revision was dominant, substitutions were most numerous, and informational purpose was used most frequently. However, few revision studies have addressed what causes writers to revise. As Faigley and Witte (1981) claim, it is important to address this question in order to understand writers' revision behaviors fully. In particular, little research has been conducted on L1 and L2 revising behaviors of Japanese writers.

Two major methodological problems in the earlier revision research should be pointed out. First, many of the revision studies in both L1 and L2 rely heavily on taxonomies in English developed by Perl (1979), Bridwell (1980), and Faigley and Witte (1981). These taxonomies have been repeatedly used in many L2 studies (Gaskill, 1986; Hall, 1987, 1990; Raimes, 1985, 1987; Sato, 1990; Tagong, 1991). However, these taxonomies are product-oriented, and sometimes mix description and interpretation (Eklundh & Kollberg, 1996; Matsuhashi, 1987). For example, the substitution of the word *conversely* for *and* is regarded as a low-level revision according to Bridwell's taxonomy, but such revisions may also address high-level logical relations in a text (Matsuhashi, 1987). Eklundh and Kollberg (1996) have further argued that the term *substitution* is ambiguous because researchers cannot tell whether substitutions are a replacement of a linguistic unit, or whether it is simply a deletion followed by an insertion. Therefore, revisions that appear in the text should be looked at from a perspective incorporating writers' intentions, and researchers need to use more process-oriented taxonomies to better understand the revision process.

Second, researchers need to adopt more appropriate revision prompts. The fact that L2 revision studies often find that L2 writers' revisions concentrate on lexical and grammatical levels (Gaskill, 1986; Hall, 1987, 1990; Tagong, 1991), for example, may be attributed to how prompts or writing assignments are given. In other words, if they were to change the prompt,

researchers might find more higher-level revisions. As Peck (1990) has argued, researchers need effective prompts to spark revisions in order to observe the various revision behaviors of writers.

Taking this into consideration, this case study investigated the revising patterns and intentions in L1 and L2 of Japanese writers with various writing experiences. Revision patterns were investigated with the earlier methodological problems in mind. Revision intention, which had been ignored in the earlier research, was addressed. The roles of writing experiences were taken into consideration because revision behaviors tend to be dependant on writers' experiences (Fitzgerald, 1987). Thus this article seeks answers to the following two research questions:

1. What are the revision patterns in L1 and L2 writing of three Japanese writers with different writing experiences?
2. What are the intentions for revisions that these writers display while writing in L1 and L2?

Methods

Participants

Participants were selected through purposeful sampling to engage in within-case comparisons concerning writing experiences in L1 and L2. Experienced writers were defined as either academics or professional writers (Berkenkotter, 1983; Matsumoto, 1995). The three participants, whom I knew personally, were Bara, an experienced writer in both Japanese and English; Kiku, an experienced writer in Japanese, but not in English; and Ume, an inexperienced writer in both Japanese and English. It should be noted that this study is exploratory in nature and that no generalization of the findings is appropriate because of the small number of participants. Pseudonyms are used throughout.

Bara is a 34-year-old Japanese woman who teaches English at a junior college in Japan. She has completed a doctoral program in English literature at a national university in Japan, but has minimal experience in English-speaking countries, having spent only two weeks total in Hawaii and Scotland. Bara's Japanese publications include five books and three academic articles. Her English publications include her MA thesis on English linguistics and one academic article on English literature. She has written numerous academic papers in both Japanese and English as a graduate student.

Kiku is a 31-year-old Japanese woman who teaches Japanese literature at a junior college in Japan. She has completed a master's program in Japanese literature at a private university in Japan. Kiku has never been to an English-speaking country. Her Japanese publications include seven academic articles on classic Japanese literature and four short essays. She has no publications in English.

Ume is a 19-year-old Japanese woman who studies economics at a junior college in Japan. Ume has never been to an English-speaking country before, and she has no publications in either Japanese or English.

Revision Tasks

Structure of writing sessions

Revision tasks consisted of eight essay-writing sessions in order to have the participants Bara, Kiku, and Ume revise four essays, two in Japanese and two in English. One week prior to the first writing session, the participants agreed to participate in a study describing and comparing composing behaviors in Japanese and English. All the prompts for composing and revising were written in Japanese on a sheet of paper and given by the researcher. In the first writing session, participants wrote in Japanese on the topic "language instruction I had in Japanese and in English." At the end of this session, the drafts with revisions were collected and photocopied. In the second writing session, the original drafts were returned to the participants, and they were asked to revise the text using think-aloud protocols. In the third writing session, the participants wrote in English on the same topic as the first writing session in Japanese. Again the drafts were collected and photocopied at the end of the session. In the fourth writing session, the original English drafts were returned to the participants, who revised their drafts aloud. In the fifth writing session, the participants wrote in English on "reading and writing in Japanese and English." At the end of the session, the drafts with revisions were collected and photocopied. In the sixth writing session, they were given the original English drafts from the fifth session and asked to revise them aloud. In the seventh writing session, the participants wrote in Japanese on the same topic as in the fifth writing session. At the end of the session, the drafts with revisions were collected and photocopied. In the eighth session, they were given the original Japanese drafts from the seventh session and asked to revise them aloud. The writing sessions were one week apart, and the structure of writing sessions is summarized in Appendix A.

Essay topics and task sequencing

The two topics "language instruction I had in Japanese and in English" and "reading and writing in Japanese and English" were chosen because they were expected to reveal participants' experiences and beliefs about writing and reading (compare Bogdan & Biklen, 1992). Furthermore, the same topics in L1 and L2 were chosen because other topics might have influenced both the quantity and quality of writing (Hamp-Lyons, 1990; Reid, 1990).

The participants wrote and revised in Japanese before they did so in English for the first topic. They then wrote and revised in English before they did so in Japanese for the second topic. This L1 and L2 task counterbalance

was adopted in order to control for possible presentation order effect (Sommer & Sommer, 1980). The participants were not informed in the beginning that they would be writing on the same topic in both languages (Sasaki & Hirose, 1996), nor were they informed that they would revise their drafts the following week.

First draft and revision prompts

Prompts for composing and revising were given in Japanese so that the participants would not misinterpret the instructions and perform the task inappropriately (Hamp-Lyons, 1990). The following writing prompts were given for the first draft essay tasks:

Write a two-page essay about "language instruction I had in Japanese and in English"/"reading and writing in Japanese and English." Please do not erase anything you write. Just cross it out. There is no time limit. You can use a dictionary.

For all the revision prompts, the participants were asked to turn the first draft into interpretive essays. According to Peck (1990), an "interpret prompt" (p. 165) produces more text changes in essay writing than prompts that ask the writer simply to improve a draft. More specifically, good interpret prompts should ask writers to make an "interpretation for a purpose" (Flower, 1990, p. 17) such as revising for a specific new audience. The following essay revision prompt was given:

Your task is to read and interpret your essay in order to teach its content to junior high school students in Japan. Please think out loud as you do this. Please do not erase anything if you change your mind. Just cross it out. Try to say everything that crosses your mind, even fragments and stray thoughts. There is no time limit. You can use a dictionary.

Data Collection

Data collection was carried out using think-aloud protocols and retrospective interviews that were conducted separately with each participant in the researcher's office on a weekly basis over eight weeks.

Think-aloud protocols

Participants revised aloud in the second, fourth, sixth, and eighth writing sessions. Participants were asked to say aloud everything they thought and everything that occurred to them while revising. Think-aloud protocols "yield rich data, since they elicit information which is kept in short-term memory and is thereby directly accessible for further processing and verbalization" (Seliger & Shohamy, 1989, p. 170).

In both L1 and L2 studies, a number of researchers have employed think-aloud protocols (Arndt, 1987; Chelala, 1981; Cumming, 1989; Flower &

Hayes, 1981; Jones & Tetroe, 1987; Lay, 1982; Raimes, 1985, 1987; Skibniewski, 1988; Smagorinski, 1991; Uzawa & Cumming, 1989; Uzawa, 1996). However, we should recognize the possible problems associated with this procedure because composing aloud may be different from composing silently (Cooper & Holzman, 1983; Perl, 1980), and it may interfere with the writers' normal composing processes (Faigley & Witte, 1981). Furthermore, the fact that L2 writing research often requires participants not only to write in L2, but also to verbalize in L2 (Jones & Tetroe, 1989; Raimes, 1985, 1987), may pose concerns about composing aloud because writing and speaking in L2 simultaneously take up more cognitive capacity than writing and speaking in L1 (Pennington & So, 1993; Uzawa & Cumming, 1989).

To compensate for these possible problems, the participants were allowed to speak in the language of their choice while revising, as well as in the retrospective interviews. In addition, the researcher had a preparatory meeting with each participant to prepare her for the writing sessions, to become acquainted with her, and to practice the protocol task, using arithmetic problems (Ericsson & Simon, 1984).

Retrospective interviews

To validate protocol data, retrospective interviews were used. Retrospective interviews were conducted to identify the writers' revisions and to discover the writers' intentions regarding their revisions. These interviews were conducted as soon as each revising session was over in order to enhance the reliability of the data (Ericsson & Simon, 1984). In each interview, both the first draft and the revised essay draft were used to ask the participant for information about her revising processes. First, the researcher identified text changes that were crossed out by the participant and asked her why she had made those changes. Next, the participants and the researcher went over each sentence, and when changes were found from the original draft, the researcher asked her why each writer had made the change.

These interviews were conducted in Japanese and audiotaped. Unlike a number of L2 writing studies (Hall, 1987, 1990; Spack, 1997; Zamel, 1982, 1983) in which data was collected through interviews in participants' L2, using the participants' native language in this study helped to increase the quality of the data, especially when the participants' L2 proficiency is not high.

Transcriptions of protocols and interviews

The audiotapes of the protocols and retrospective interviews were transcribed verbatim by the researcher. All the protocols from Japanese revising tasks were produced in Japanese. Also, all the protocols from English revising tasks were produced in Japanese except when participants read sentences from their original and second English drafts in English. All the

transcriptions were member-checked by each participant, who confirmed transcript authenticity the following week.

Data Analysis

First and second revision

In this study, revisions were grouped into two categories: (a) first revisions, which were identified by comparing the final version of a composition with the first draft; and (b) second revisions, which were items crossed out by the writers in the final version. The former captures revision before it is written down on the second draft, and the latter captures revision after it is written down on the second draft.

For both first and second revisions, deletions and insertions were used as analytical units following Eklundh and Kollberg (1996). Deletions and insertions were identified by comparing the original draft with the revised text as each participant and the researcher reviewed their texts.

Data reduction

Protocol analysis and retrospective interviews were used for the analysis of revision intentions. Based on regularities and patterns that I noticed in transcription (Miles & Huberman, 1994), a set of preliminary codes was developed for the analysis of the retrospective interviews and protocols. Before coding the whole data set, the codes were applied to samples of the data by an independent coder, a Japanese doctoral student majoring in English. This helped to refine the codes further. The final codes to analyze writers' intentions in revision were verified for intercoder agreement (93%) on a randomly selected 68 revisions, that is, 10% of the revisions. Then the remaining data were coded by the researcher, who counted the frequency of the coded results.

The final codes used for revision analysis include *clarification*, *elaboration*, *grammar*, *intuition*, *lexis*, *miswrite*, *rhetorical effect*, *style*, *tone of voice*, *transition*, and *others*. The following are the definitions and the examples from the protocols and retrospective interviews.

Clarification refers to revisions that were made to clarify the meaning. In Kiku's first Japanese revising task, she deleted *kakimashitaga* [although I wrote]. She said in the interview that the reason was "*wakariyasuku surutame*" [to make the sentence clearer].

Elaboration involves revisions that the writer worked out in detail. For example, Kiku added *But he spoke beautiful Chinese* in the first English revising task when she said in the protocol "*kotoba tarazu dato okashii kara*" [It is strange not to elaborate].

Grammar refers to changes made for the grammatical reasons. In the second English revising task, Bara changed *sometimes instruct me*, *sometimes entertain me* into *sometimes instructing me*, *sometimes entertaining me*, when she

said in the protocol "*kokowa bunshikoubun ni shiyou*" [Let me use a participial construction here].

Intuition refers to those changes that were made intuitively. For example, in Ume's first Japanese revising task, she deleted *mou hitori hokano kurasuni*. The interview revealed she did so because "*hen to omotta*" [I thought it was strange].

Lexis involves lexical changes. For example, in the first Japanese revising task, Ume replaced *ikioi* with *kimochi*. According to the interview, it was because she wanted to make the meaning weaker or "*imitwo yowakusuru*."

Miswrite includes writing something different from what the writer apparently intended. In the second English revising task, Kiku inserted a *t* in *leter* when she mentioned in the protocol "*t ga hitotsu nuketeru*" [One *t* is missing].

Rhetorical effect refers to revisions made in order to affect audience. For example, in Ume's second Japanese revising task, she added *minasanno fudanno seikatsuwo omoidashitemireba* [Think about your daily life]. According to the interview, she wanted the junior high school students to think deeply or "*chuugakuseini yoku kangaete moraeruto omotta*."

Style refers to revisions made for stylistic purposes. In Kiku's first Japanese revising task, she deleted *kanjiru* [I feel]. She thought it was "*kudo kara*" [it is repetitive], according to the interview.

Tone of voice refers to the revisions to change the tone of voice. In the second English revising task, Bara moved the phrase *in junior high school* from the end to the beginning of the sentence as she said in the protocol "*korewo atamani dashite kyouchou suruka*" [Let me put this phrase at the beginning to emphasize it].

Transition includes changes to improve connections between sentences. In the first English revising task, Kiku replaced *and* with *but* in the sentence *And I was interested in English*. In the interview, she said she thought "*And no houga wakariyasui*" [And is easier to follow].

Others include those that are hard to categorize into any of the above. For example, in Bara's second English revising task, she inserted *so* before *long ago* because she said in the interview "*kuchouga iikara*" [It sounds better when read aloud].

For the data analysis, these codes were divided into two levels based on the relative difficulty of automatization (Foertsch, 1995). Specifically, *grammar*, *intuition*, *lexis*, and *miswrite* were considered as lower-level revision intentions, whereas *clarification*, *elaboration*, *rhetorical effect*, *style*, *tone of voice*, and *transition* were considered as higher-level revision intentions.

Retrospective interviews and protocols did not contradict one another in the study. However, there were some instances in which protocols and reflective interviews did not agree. In these cases, both instances were coded. Also, instances that were not identified in protocols and retrospective inter-

views to determine the intentions were excluded from the data. During and after data collection, participant checking was conducted. After the data collection, the participants were asked to read the researcher's draft report and confirm the authenticity of the information contained in it (Lincoln & Guba, 1985).

Findings

Text Length, Time, and Text Quality

Table 1 presents each participant's total word counts for Japanese and English original texts, total time spent for Japanese and English revising tasks, and total scores of the Japanese and English texts produced from two revising tasks in Japanese and in English (see Appendix B for writing samples).

Kiku produced the longest Japanese texts, followed by Bara and Ume. Bara produced the longest English texts, followed by Kiku, then Ume. In comparison, only Bara produced longer texts in English than in Japanese. However, text length measured by word should be interpreted with reservation when two languages have different linguistic systems (Crystal, 1997).

Table 1 also shows that Bara revised the most quickly, followed by Ume, then Kiku, both in Japanese and English revising tasks. English revision took more time than Japanese revision for Bara and Kiku, whereas Ume spent less time revising in English than in Japanese.

The quality of the texts produced for the tasks were rated. The English compositions were scored by two American professors of English using the "ESL Composition Profile" (Jacobs, Zinkgraf, Wormuth, Hartfiel, & Hughey, 1981). Ratings were assigned to the following aspects of each composition: content, organization, vocabulary, language use, and mechanics. Each participant's score was the sum of the two raters' scores. The possible score

Table 1
Totals of Each Participant's Text Length, Time, and Text Quality

	<i>Text length</i>	<i>Time</i>	<i>Text quality</i>
<i>Japanese</i>			
Bara	594	47	366
Kiku	704	156	289
Ume	534	146	272
<i>English</i>			
Bara	669	51	367
Kiku	630	220	271
Ume	325	110	212

range from each rater was between 68 and 200. Similarly, the Japanese compositions were scored by two Japanese professors of Japanese literature using a Japanese version of Jacobs et al.'s profile developed by Hirose and Sasaki (1994). Using Alpha Cronbach, the reliability between the two Japanese raters was calculated as .89, and the reliability between the two American raters was calculated as .91, both of which were interpreted to be high reliability.

Table 1 shows the total scores for two revising tasks for the Japanese and English writing respectively. Thus the possible score ranges from 136 to 400. In Japanese, Bara's texts were rated the highest, followed by Kiku, then Ume. In English, Bara's texts were rated the highest, followed by Kiku, then Ume.

Revision Patterns

The total of each participant's frequencies for deletions and insertions in the first and second Japanese revising tasks and in the first and second English revising tasks are displayed in Table 2. In parentheses are the percentages of revision to the text length.

Across languages in each case, all three writers produced many more revisions in Japanese than in English in terms of both deletion and insertion. Bara, for example, made 78 deletions and 78 insertions in Japanese, whereas she made 34 deletions and 38 insertions in English. And Table 2 shows that the total number of revisions and the percentage of revision to the text length in Japanese is greater than in English. Most notably, Bara's revision percentage in L1 (26%) is more than double her revision percentage in L2 (11%).

Table 2
Totals of Each Participant's Frequencies for Deletions and Insertions

	<i>Deletion</i>	<i>Insertion</i>	<i>Total</i>
<i>Japanese</i>			
Bara	78	78	156 (26%)
Kiku	68	59	127 (18%)
Ume	82	80	162 (30%)
<i>English</i>			
Bara	34	38	72 (11%)
Kiku	44	46	90 (14%)
Ume	34	31	65 (20%)

Table 3
Each Participant's Percentages of Intentions for First and Second Revisions

	<i>Lower level</i>				<i>Higher level</i>						
	<i>GRA</i>	<i>INT</i>	<i>LEX</i>	<i>MIS</i>	<i>CLA</i>	<i>ELA</i>	<i>RHE</i>	<i>STY</i>	<i>TON</i>	<i>TRA</i>	<i>OTH</i>
<i>Japanese</i>											
Bara											
First	1%	20%	0%	0%	11%	1%	1%	8%	42%	8%	6%
Second	0%	18%	0%	24%	10%	4%	4%	12%	24%	0%	2%
Kiku											
First	0%	18%	0%	6%	22%	20%	10%	6%	14%	2%	0%
Second	0%	35%	5%	11%	6%	2%	2%	13%	11%	8%	6%
Ume											
First	0%	25%	2%	0%	4%	19%	10%	8%	10%	8%	13%
Second	0%	26%	3%	14%	10%	4%	3%	4%	14%	11%	11%
<i>English</i>											
Bara											
First	8%	17%	6%	6%	25%	3%	3%	6%	28%	0%	0%
Second	10%	19%	5%	24%	14%	0%	5%	10%	5%	0%	10%
Kiku											
First	4%	20%	4%	7%	16%	5%	2%	25%	5%	7%	4%
Second	13%	19%	13%	0%	6%	6%	13%	19%	0%	6%	6%
Ume											
First	0%	38%	8%	8%	8%	31%	0%	8%	0%	0%	0%
Second	3%	23%	3%	48%	3%	0%	0%	0%	0%	3%	16%

GRA=Grammar; INT=Intuition; LEX=Lexis; MIS=Miswrite; CLA=Clarification; ELA=Elaboration; RHE=Rhetorical effect; STY=Style; TON=Tone of voice; TRA=Transition; OTH=Others

Revision Intentions

Table 3 shows the percentages of each participant's revision intentions for the first and the second revisions in the first and the second Japanese revising tasks, and in the first and the second English revising tasks.

In L1 first revisions, all the writers used both lower- and higher-level intentions. Bara used *tone of voice* the most frequently (42%), followed by *intuition* (20%) and *clarification* (11%). Kiku used *clarification* the most (22%), followed by *elaboration* (20%) and *intuition* (18%). Ume used *intuition* the most (25%), then *elaboration* (19%). In L1 second revisions, all participants, regardless of their writing experience, tended to focus more on lower-level revisions than during the first revisions. Bara used *miswrite* and *tone of voice* the most (24%), followed by *intuition* (18%). Kiku used *intuition* the most

frequently (35%), then *style* (13%). Ume used *intuition* the most (26%), followed by *miswrite* and *tone of voice* (14%).

In L2, similarly, all the writers used both lower- and higher-level intentions in the first revisions. Bara used *tone of voice* the most (28%), followed by *clarification* (25%) and *intuition* (17%). Kiku used *style* the most (25%), followed by *intuition* (20%) and *clarification* (16%). Ume used *intuition* the most (38%), then *elaboration* (31%). During the second revisions, all participants, regardless of their writing experiences, tended to focus more on lower-level revisions than during the first revisions, as was the case with L1. Bara used *miswrite* the most (24%), followed by *intuition* (19%). Kiku used *intuition* and *style* the most (19%). Ume used *miswrite* the most (48%), then *intuition* (23%).

In this case study, writing experience did not seem to account for how the writers revised because, regardless of their experience, they showed similar revising intentions in L1 and L2. That is, all the writers focused on both lower- and higher-level intentions in the first revisions, but they appeared to focus more on lower-level intentions in the second revisions.

Discussion and Conclusion

Revision patterns in this study present a sharp contrast to Hall's (1987, 1990) finding that reports L2 revisions were nearly double in number compared with L1 revisions. This may come from the different research methods: the present study employed deletion and insertion as an analytical unit (Eklandh & Kollberg, 1996) and used Peck's (1990) prompts to turn the first draft into interpretive essays. The finding indicates that the writers, regardless of their writing experience, may pay more attention to text changes in Japanese than in English when they already had a draft to revise. The different number of revisions in L1 and L2 can be explained by the fact that more lexical and grammatical resources are available in L1 than in L2 (Cumming, 1989; Chenowith & Hayes, 2001), which helped to lighten their overall cognitive load in L1 revision more than L2 revision. As a result, they could identify more "gaps" between what they wanted to express and what they wrote.

Concerning revision intentions, these writers showed similar revising intentions across languages. That is, they focused on both lower- and higher-level intentions in the first revisions, but they appeared to focus more on lower-level intentions in the second revisions. This is comparable to Whalen and Ménard's (1995) study, which reports similar revising patterns across languages among intermediate-advanced Anglophones learning French, but it is not comparable to the earlier research (Faigley & Witte, 1981; Raimes, 1985, 1987; Zamel, 1983), which found a relatively clear difference between experienced and inexperienced writers. The finding supports the idea that composing behaviors transfer across languages (Chelala, 1981; Zamel, 1983; Gaskill, 1986; Hall, 1987, 1990). That is, each writer showed similar revision

intentions in the first and second revisions in Japanese and English because of possible transference between L1 and L2.

The above discussion on revision patterns and intentions should also consider the different text length, time spent for revision, and text quality produced by each writer, as shown in Table 1. As mentioned above, Bara, an experienced writer in Japanese and English, spent much less time revising in both Japanese and English than the other two less experienced writers, but produced the highest text quality of the three writers. She produced the longest text in English. This suggests that efficient and effective revisions are possibly explained by the control structure for revision (Hayes, 1996). The control structure is a task schema defined as “a package of knowledge, acquired through practice, that is useful for performing the task and is retrieved as a unit when cues indicating the relevance of the schema are perceived” (p. 16). The task schema might include such knowledge as what to pay attention to in the text being revised and what strategies to use to fix specific classes of text problems. For example, many inexperienced writers fail to revise globally because their control structure may not include the goal of attending to global problems (Wallace & Hayes, 1991). In this case study, Bara outperformed the other two less experienced writers, perhaps because she was equipped with a better task schema, which enabled efficient and effective revision processes. Therefore, each writer’s revision efficiency and effectiveness may be attributed to prior writing experiences through which revision control structure was acquired.

Implications

Based on the findings, three implications are drawn for teaching. First, revision patterns suggest difficulty and inefficiency in L2 revision. Consequently, L2 writers should be encouraged to employ keep-up-the-standard strategies (Uzawa & Cumming, 1989). For example, they may be allowed to take extra time, consult a dictionary, or use translation. English teachers, however, should also consider when to encourage students to employ such strategies and when not to do so, as the heavy use of these strategies may prevent students from becoming efficient and productive in L2 writing.

Second, understanding students’ revision intentions makes it possible for teachers to provide more careful and effective writing instruction. Teachers should share this information with students. Instead of simply telling students to revise globally, teachers may encourage them to revise with higher-level intentions in mind before they begin to write, then focus on lower-level revisions at a later stage, whether writing in L1 or L2. This revision strategy may lighten students’ cognitive load because they need not focus on both higher- and lower-level revisions at the same time. To improve revision skills, revising checklists may be used both during and after composition to

improve the drafts, together with instruction on how to make effective revisions (Wallace & Hayes, 1991).

Finally, with the recognition that writing experiences play an important role in revision efficiency and effectiveness, students should be encouraged to write both in and outside class over an extended period. Cumming (2002) suggests L2 writing teachers give students sufficient time and supportive conditions so that they can practice and improve their L2 writing. This means that students should be given ample opportunity to write, read their drafts, and revise. However, any implications, including mine, should be implemented carefully after thinking through various variables involved in teaching writing (Cumming, 2002).

The following three implications for future research should be considered. First, this study reports on only three cases and should be replicated with a large number of participants in order to ensure the representativeness of the findings. Second, future studies should try to incorporate naturalistic studies. The data in this study were obtained in a rather artificial environment. It is important to understand how bilingual writers revise in natural settings, which could be done by observing and videotaping their writing behaviors. Last, future studies should include bilingual writers other than Japanese-English bilinguals. Investigating bilinguals from different language backgrounds could contribute to arriving at a better view of bilingual writers.

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Appendix A

Structure of Writing Sessions

1st week	consent form
2nd week	composition in Japanese on "language instruction I had in Japanese and in English"
3rd week	revision with protocols in Japanese
4th week	composition in English on "language instruction I had in Japanese and in English"
5th week	revision with protocols in English
6th week	composition in English on "reading and writing in Japanese and English"
7th week	revision with protocols in English
8th week	composition in Japanese on "reading and writing in Japanese and English"
9th week	revision with protocols in Japanese

Appendix B Writing Samples

Kiku's First Composition in English (Final version)

My first teacher in junior high school is English teacher. He is a old man and he had a bad pronunciation. We always laught at his English pronunciation. But his conversation in Japanese was very beautiful. I was very conscios of my Japanese conversation in every day and I heard another person's conversation. But I was interested in English and Japanese lessons after that. I was very conscios of his and a private English school's teacher at the same time. I didn't like English and Japanese lessons. But he spoke Chinese too. He was very entertaining and his Japanese class was very interesting too. We played with him and spoke with him every after school. Sometimes he taught about Chinese classics and conversation. He spoke Chinese very well and I was surprised. He taught about Chinese beautiful sound and he told that Chinese sound was the most beautiful sound in the world. Then I was interested in Chinese sound. And I was conscios of sound of every conversation. The sound of conversation became the most important thing for me after that. If I didn't meet with them, I would not be conscios of languages. And if I didn't take their class, I would not like every language. Their classes and personal character changed a false impression about English and Japanese. I like language. I am interested in Japanese in specialty now. now I thank to my teachers and to my valuable language. Every day I use all sorts of language. Perhaps I use many wrong languages. But I feel so each time. I remember them and my junior high school and high school' times. My valuable language live with my valuable memory now. Language live with me. I live with language. I want to take care of them and I want to live happily with them in future.

Kiku's Second Draft of the First Composition in English (Final version)

My first teacher in junior high school was English teacher. He was an old man and he had a bad pronunciation. We always laught at his English pronunciation. But his conversation in Japanese was very beautiful. So I didn't like English and Japanese lessons. And I was interested in English and Japanese lessons. Then I was very conscios of my Japanese conversation in every day. And I listened to another person's conversation. My first teacher in high school was Japanese teacher. He often spoke provincialism. But he spoke beautiful Japanese conversation. He spoke Chinese too. He was very entertaining and his Japanese lesson was very interesting too. We played with him and spoke with him every after school. Sometimes he taught about Chinese classics literaturrel and conversation. He spoke Chinese very well and I was surprised. And I was enjoying his conversation. He taught about Chinese beautiful sound and he told that Chinese sound was the most beautiful sound in the world. Then I was interested in Chinese sound. The sound of conversation became the most important thing for me after that. And I was conscios of my manner of speaking, too. If I didn't take their lessons, I would not be conscios of language. Their lessons and personal character changed a false impression about English and Japanese. Now, I am especially interested in Japanese. Every day I use all sorts of language. Perhaps I use many wrong languages. But I remember my junior high school and high school's times, and I study language. My valuable language live with my valuable memory now. Language live with me. I live with language. I want to take care of them and I want to live happily with them in future.