SELF-EVALUATION AND KANJI PROFICIENCY OF ADOLESCENT JAPANESE HERITAGE LANGUAGE LEARNERS: A FOLLOW-UP STUDY AFTER ONE YEAR OF KANJI LEARNING

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Abstract

This paper explores issues related to learning Japanese as a heritage language and the challenges that arise for children learning the language of their families while living in another language environment. The context for the study was a *hoshuu-koo*, a Japanese Saturday school, in Australia. The participants were students in Year 7 who attended the hoshuu-koo. This study was a follow-up study to the research conducted on the same students in the previous year. After one year of learning *kanji*, one of the Japanese scripts, the focus was on how students' self-recognition of their kanji skills and kanji proficiency had changed. It was predicted that improvement in kanji proficiency would contribute to the enhancement of the accuracy of self-recognition of kanji proficiency and elicit an appropriate recognition of proficiency in each component of kanji. Data were based on students' performance in kanji tests and answers on questionnaires and the Excel Correl Function was used to calculate correlation coefficients. Graphs were used to analyse the data. It was found that when the students' kanji proficiency was improved, their self-evaluation skills also enhanced; however, different tendencies were found between reading and writing kanji. The over-estimation of skills for easier levels of kanji were reduced but increased for more difficult levels of kanji amongst the students who did not have adequate kanji skills. The appropriate recognition of each kanji component was mostly improved but further approaches would be needed for the *okurigana* component, which was a significant problem found in the previous study. Concluding comments centre on the implications for further teaching approaches and research on the enhancement of kanji self-evaluation skills.

Keywords: Japanese heritage language (JHL) learners, kanji, self-evaluation, proficiency, radicals, okurigana

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1. Introduction

This study explores the self-evaluation skills of Japanese Heritage Language (JHL) learners in relation to their proficiency in *kanji* (one of the three Japanese scripts). The participants were students in Year 7 and the researcher was a participant-observer. The significance of heritage language has become increasingly important socially, culturally and economically as global population movement increases. Year 7 was selected as the focus for this research as it is a time when learning the heritage language become more demanding and complex (e.g., Douglas, 2010; Willoughby, 2006). By comparing current data with the previous year's analysis of their self-evaluation skills of the same participants, it also examines how students may have improved the recognition of their own kanji proficiency after one year of kanji learning.

The results revealed certain characteristics; overall, it was proven that students' self-evaluation skills were enhanced along with their improvement of kanji proficiency and this trend was stronger in reading kanji than writing kanji. Different tendencies in the accuracy of self-evaluation for each year level of kanji were also found between kanji reading and writing. In the analysis of components of kanji and self-recognition of proficiency, it was found that the test results for most of the components of kanji became closer to the confidence levels, especially for reading, but a slightly high level of underestimation of radical skills and underestimation of *okurigana*, inflectional ending for verbs and adjectives, are still found.

This article presents a description of the relevant literature and identifies the theoretical framework of the research. This is followed by the data collection, analysis and findings that emerged. The conclusion includes implications for the further study.

2. Literature review

The significance of maintaining heritage language has become increasingly important socially, culturally and economically as global population movement increases. Against this background is the growing understanding that heritage language learners have different needs and abilities to those acquiring the language as a first language or as second language learners.

The term "heritage language" has been defined by many researchers. Globalization has created greater numbers of new-arrivals, migrants, and foreign-born students and the term has acquired many variations. According to Nakajima (1998), heritage language is the first language that children learn to speak fluently. For example, in Australia, as children grow up they will come to use the local language (e.g., English) more frequently and skillfully and thus their first language (e.g., Japanese) becomes their heritage language. Nakajima's definition is adopted for this paper as most of the students at the *hoshuu-koo* school in this research were born outside Japan and will grow up outside Japan, although at least of one of their parents is Japanese and uses Japanese within the home to varying degrees.

Heritage speakers gain a sense of belonging through learning the language and culture and it provides a positive sense of identity (Park & Sarkar, 2007), supports social belonging and develops self-confidence (Kakui, 2001). Heritage languages are an important conduit between home and society. Communication within a family and their own ethnic community greatly influences children's values, personality and language acquisition (Fukazawa, 2010), as well as encouraging learners to transmit their own culture from one generation to the next (Wang & Green, 2001).

A *hoshuu-koo* in Australia was selected for this research. *Hoshuu-koo* are supplementary Japanese schools outside Japan that are organised by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) and provide Japanese education for first grade to ninth grade students who go to a local school during the week. The schools were originally designed for children who would eventually return to Japan and were expected to provide children with access to part of the Japanese compulsory education curriculum (Doerra & Leeb, 2010). As well as teaching Japanese to the designated original cohort of students, many supplementary schools also teach Japanese as a heritage language (JHL) (Yamaguchi, 2008).

There is a growing body of evidence that many children in the Japanese diaspora in Australia do not have the Japanese language skills to successfully study at the level expected of them in the MEXT curriculum – especially as learners become older – and maintaining and acquiring age-appropriate proficiency becomes difficult. This may influence learning motivation (Douglas, 2008; Oguro & Moloney, 2012). Age-appropriate proficiency in JHL education is regarded as having the appropriate level of knowledge of vocabulary, script and grammar and the skills to use them so that students can continue to learn at school in the appropriate grade based on the curriculum designed by MEXT. Example characteristics of JHL learners' proficiency that have been recognised by researchers include an imbalance in the four language skills of reading, writing, speaking and listening (Douglas, 2010; Nishimura, 2012), the use of wrong registers (Calder, 2008) and restricted knowledge and competence in morphology and vocabulary (Calder, 2008; Kataoka, Koshiyama, & Shibata, 2008). There could be several factors that influence learners' proficiency and Aiko (2017) indicates the increasing use of a dominant language and the lack of opportunities to hear or use formal language registers as examples.

Research findings regarding the proficiency of heritage language learners have found that Japanese language acquisition in English-speaking countries presents particular difficulties because of its unique linguistic characteristics (Nakajima, 1998). Different word order from English, verb conjugation system, and various registers depending on situation and users are examples of these complexities. Ootsuki (2010) commented that Japanese is not very different from other languages in terms of the difficulty of acquiring the system even though Japanese grammar is unique; however, the most difficult part of Japanese learning is the script system.

There are three types of Japanese script: *hiragana*, *katakana* and *kanji*. Hiragana and katakana are phonetic scripts; each character represents one sound and does not

represent any meaning. The use of hiragana, katakana and kanji also has rules. Hiragana is used for the conjugative parts of verbs, adjectives, particles and small words that indicate the relations of words within a sentence following nouns. They are also used for conjunctions, words that do not have kanji (or that have obscure or unusual kanji), *okurigana*, inflectional ending for verbs and adjectives, and *furigana*. Furigana are phonetic readings of kanji placed above or beside the kanji. Hiragana is also used when a writer, or reader, lacks kanji knowledge. Katakana is used for proper nouns that are not in kanji, for example words borrowed from foreign languages and the names of persons, places and onomatopoeia (Banno, Ikeda, Ohno, Sinagawa, & Tokashiki, 2011; Japanese Language Resource, 2011). Kanji is used to write most content words of the native Japanese language and any words that come from China, including most nouns, the stems of most verbs and adjectives. Kanji has multiple readings and meanings; when two or more kanji characters are used in one word, different readings and meanings are applied than when a single kanji is used.

Due to its complexity and the number of kanji, a lack of proficiency in kanji skills for JHL learners is often found. According to a large-scale international investigation of the experience of hoshuu-koo teachers, findings indicated that many JHL learners do not reach age-appropriate levels of kanji proficiency (Kataoka & Shibata, 2011). Nakajima (2003) also found that JHL learners' kanji proficiency does not necessarily progress as they grow older. Findings from research conducted by Douglas (2008) reported that JHL students' reading skills are very similar to the skill levels of second language learners at university. Moreover, Douglas (2010) found that university JHL students have problems in writing and reading combination kanji words amongst kanji components although they can read kanji within context relatively well.

JHL learners usually have insufficient opportunities to be exposed to spoken and written texts or enough opportunities to use the language in their daily lives, which affects the amount of acquired age-appropriate vocabulary and kanji (Kataoka & Shibata, 2011). Unlike second language learners, the amount of kanji that is expected to be remembered is large and students may not be able to grasp how much kanji they need to maintain. Thus, it is suspected that students have insufficient recognition of their own kanji proficiency. It is also suspected that learners who lack self-assurance in kanji miss the opportunities to develop their skills as they are hesitant to learn. This attitude tends to increase as the learners become older, especially for adolescents and adults. It is assumed that recognising one's own proficiency properly helps in gaining confidence and in devising one's own learning methods. Therefore, it is important to identify how accurately each JHL learner recognises his/her own kanji proficiency and to find out if there are any factors relating to the self-recognition skills so that further learning methods can be explored to enhance self-evaluation ability.

Blanche and Merino (1989) mentioned that self-evaluation is a source of information about abilities and progress provided by learners themselves. This information also includes learners' expectations, needs and worries (Harris & McCann, 1994). It has been said that students can become aware of their progress by being given

the opportunities to assess themselves and by being made responsible for their own learning (Dickinson, 1987; Harris, 1997). As a result, self-assessment helps students become active participants in their education (Joo, 2016; Sloan, 1996). Blanche and Merino (1989) also insisted that metacognitive skills, as well as student proficiency, can be developed by adopting this approach and helps teachers to become aware of learners' individual needs. Thus, it can be said that the effect of a self-evaluation system in language education and how students then self-rate their proficiency could be a key point in making the system valuable.

Research has found several tendencies that affect the accuracy of self-evaluation, such as the learning environment and negative relations amongst family and at school (Konaszewski & Sosnowski, 2017). The level of proficiency and length of learning are reported as affective factors. Gertsen (2006) research proved that students who studied over a longer period can evaluate their skills more accurately. Moreover, the higher that language proficiency is, the more accurate is the learner's self-rating (Davidson & Henning, 1985; Heilenman, 1990). Students who obtained high scores in tests believed in their improvement, whereas students who did not perform well in tests rated themselves lower than their actual improvement. Although a correlation between the accuracy of self-evaluation and proficiency was found, this does not mean that higher proficiency always leads to accurate self-assessment. Yoshizawa (2009) found a correlation between self-assessment and the difficulty of reading texts but no significant relation with listening. Therefore, the fields of learning relating to self-evaluation and actual proficiency vary.

In the previous study conducted with the same students, both overconfidence and a lack of confidence were found depending on the components of kanji. Being confident is important; Nazarova and Umurova (2016) mentioned that students with insufficient confidence tend to be passive in learning. Narciss (2011) also found confidence contributes positive attitudes toward learning. MacIntyre, Baker, Clement, and Conrod (2001) also suggested that self-confidence significantly contributes to the learner's willingness to language learning. According to the study by Bi, Dang, Li, Guo, and Zhang (2016), learners with overconfidence tend to be more susceptible to problem-solving than learners lacking in confidence. However, both overconfidence and non-confidence have problems: Ehrlinger and Shain (2014) stated that learners tend to have the wrong perception about their own proficiency and do not prepare for tests, do not pay much attention to their learning or ignore any contents that they do not understand if they are overconfident. In contrast, a lack of confidence leads to negative attitudes about learners' performance. Therefore, reducing overconfidence or a lack of confidence is necessary.

3. The research

A. Background to this study

In the previous study, Aiko (2018)conducted research on the same students to examine how accurately Year 7 students recognised their kanji skills by testing them on the kanji they had been introduced to between Year 1 and Year 6 and comparing the test results to their confidence. It was found that the higher the kanji proficiency that the students have, the more accurately they could evaluate their skills. Moreover, much overconfidence was found for the lower year (easier) levels of kanji amongst the students whose kanji proficiency was in the middle range or lower. These students did not have any confidence for higher year levels of kanji and answered questions with incorrect answers or provided no answers on the tests. It was also found that the students who were in the higher than middle range showed a degree of overconfidence in higher year levels of kanji. Regarding the components of kanji, most of the students over-evaluated their okurigana skills, and underestimated their knowledge of radicals regardless of their kanji proficiency. Most of the students could perform single kanji reading to the level of their confidence but their skills in reading and writing compound kanji words and to use kanji words in context did not reach their confidence levels, although some differences were found amongst individuals. It was assumed that the students tended to judge their kanji skills by whether or not they could read single kanji words.

B. Purpose of this study

The findings of the previous study indicated an overestimation of easier levels of kanji amongst the students whose kanji proficiency was below the middle range, and incorrect recognition of okurigana and radical skills for most of the students to be significant factors that need to be improved. As a solution, the learning of radicals and okurigana training were especially focused on for students whose kanji skills were in the middle range or lower throughout the year. The students were highly encouraged to use a dictionary and to check the shapes of both kanji and okurigana carefully even for kanji from the lower year levels. It was expected that self-evaluation skills and kanji proficiency would improve after one year of kanji learning. To what extent students improved their self-rating skills and which components of kanji and year levels of kanji were improved over one year were explored with the same students from the study.

C. The research questions

In this study, the improvement of kanji self-evaluation skills was focused on and the following specific questions were explored:
- How does an individual's improvement in kanji proficiency relate to his/her improvement in self-rating? Is there any relationship between the change in a student's self-recognition of kanji for each year level and a shift in kanji proficiency?

- How do students' self-recognition of their skills for each kanji component change and is there any relationship with the change in self-evaluation for the entire kanji?

D. The participants

Year 7 students studying Japanese at an Australian hoshuu-koo in the 2017 academic school year were approached to participate in this research. There was no control group and in total 30 students participated. Most of the students were born in Australia and had started studying Japanese at this hoshuu-koo when they were in Year 1. Pseudonyms for the students have been used throughout the study.

E. Research design

Quantitative approaches to data collection and analysis were used in this research. The data were collected at the end of the academic school year when the participants finished Year 7 and the contents of the test included the learning areas introduced before the end of Year 6. The data were analysed to determine how much the self-evaluation skills of JHL students improved throughout one year of kanji learning during Year 7, compared with the data that was collected at the beginning of the school year and which had been analysed for previous research conducted by the researcher of this study. The kanji learning during the year included revision of kanji introduced by the end of Year 6 as well as kanji that was newly introduced in Year 7. The kanji learning involved the introduction of kanji and practice using PowerPoint slides, kanji tests and writing tasks. The use of dictionaries was always encouraged for students to check kanji. The Excel Correl Function was used to calculate correlation coefficients. Graphs were used to analyse the data and correlation trends amongst each element were explored.

Materials used in this research comprised tests and questionnaires.

Tests:
The same style of kanji test at the beginning of the year was used. Kanji that had been introduced between Year 1 and Year 6 were tested. Ten words that used kanji from each year level were selected for reading and writing, respectively, and okurigana and the use of kanji in context were also tested and each student's performance analysed. Words in the test included both single kanji words and compound kanji words. Besides this, five most frequently used radicals were selected and the students were required to write kanji with each radical.

Questionnaires:
The following items were asked in the questionnaires:
- Confidence level in kanji from each year level and radicals;
- Confidence rating for areas within kanji learning (reading, writing, compound words, radicals, use in context, and okurigana).

F. Procedure:
An examination was made of the following points:
1. Change in kanji proficiency and self-evaluation skills;
2. Relationship between improvement of self-evaluation skills and actual scores on the test;
3. Improvement rate in the accuracy of self-evaluation skills for each year level of kanji;
4. Changes in relationship between students' confidence and their actual performance for each component;
5. Improvement in radical self-evaluation skills
6. Changes in the relationship between confidence and the result of the test order for each kanji component.

4. Results

4.1 Changes in kanji proficiency and self-evaluation skills
In order to see the improvement rates of self-evaluation skills, the accuracy of self-rating skills at the beginning and the end of the year were graphed separately for reading and writing skills (Graph 1 & Graph 2). The differences between confidence in each year level of kanji and the actual test results were measured and averages calculated. The graphs were sorted by the accuracy of self-rating skills at the beginning of the year. Correlation coefficients were also calculated. Correlation coefficients showed high relations in the reading section and it was found that the students who had high levels of accuracy rate in self-evaluation had higher self-rating skills than others. Graph 1 shows that most of the students recorded higher accuracy rates of self-rating at the end of the year compared to the beginning of the year. Therefore, it was proved that most of the students improved their self-rating skills in reading kanji. Regarding writing kanji, it was found that most of the students had higher levels of accuracy rates at the end of the year but there were some students who did not improve. For both reading and writing kanji, higher rates of improvement were found amongst the students whose accuracy rates were not high at the beginning of the year, with the exception of some students.

Graph 1: Changes in self-ratings for reading kanji
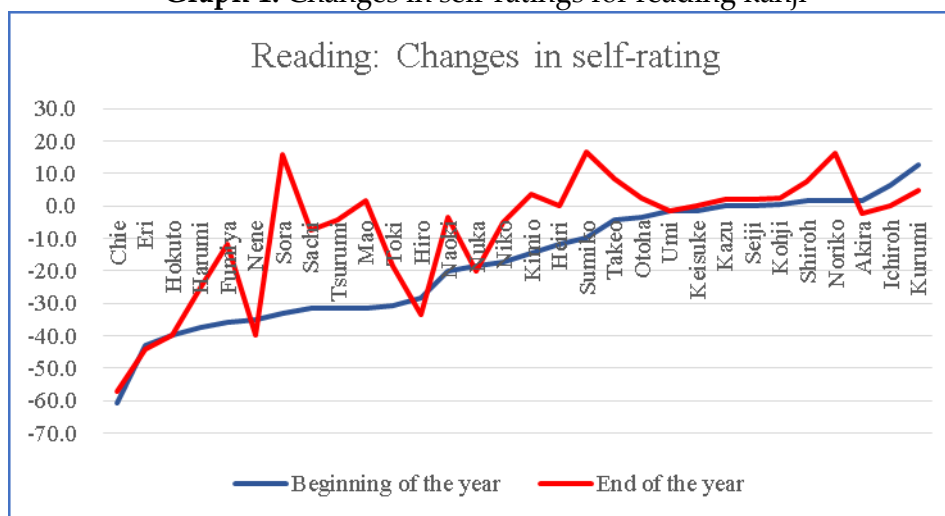
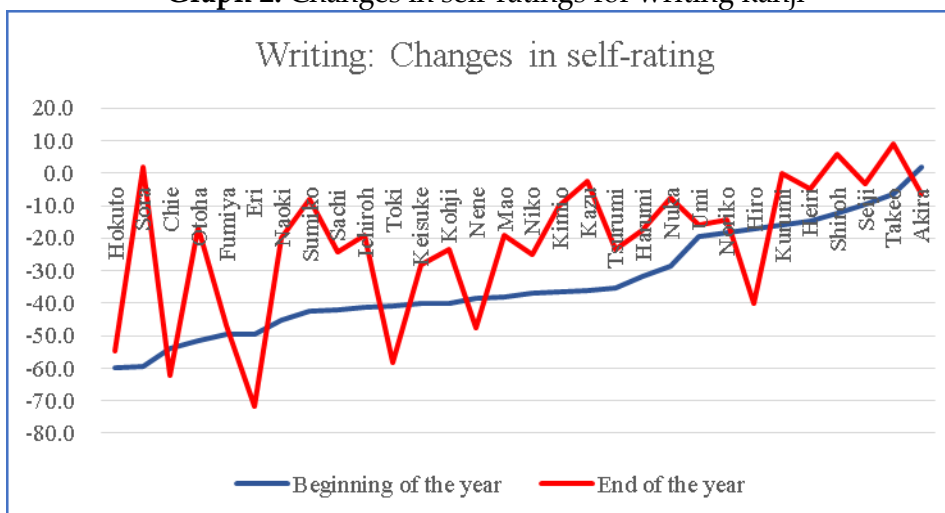**Graph 2:** Changes in self-ratings for writing kanji

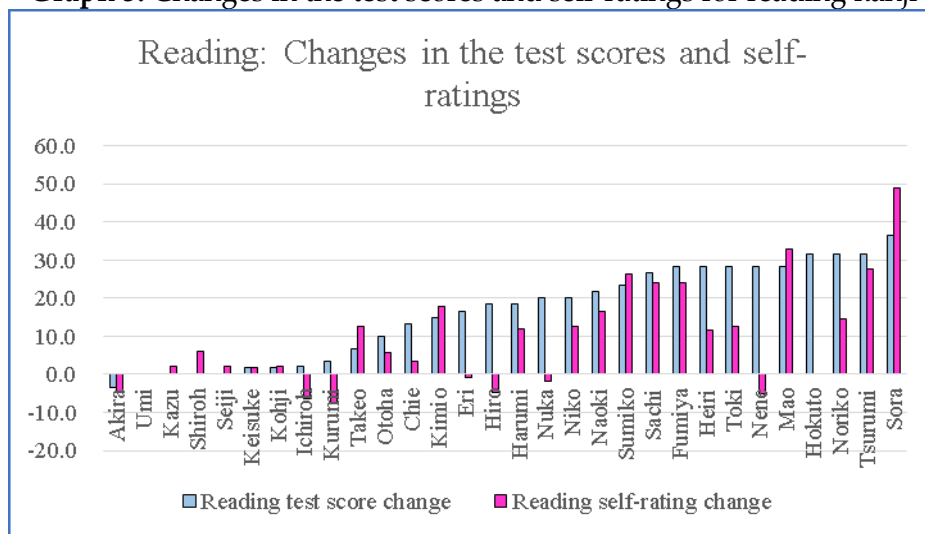**Table 1:** Correlation coefficients of self-rating between the beginning and the end of the year

Reading	0.74
Writing	0.55

4.2 Relationship between improvement in self-evaluation skills and accrual scores on the test

The improvement rates of self-rating skills and test scores between the beginning and the end of the year were graphed to find the relationship between them. Reading and writing sections were graphed separately (Graph 3 & Graph 4, respectively). The graphs were sorted by the improvement rate of the test scores. Correlation coefficients were also calculated to find the degree of the relationship. Correlation coefficients showed more than 0.6 for both sections and strong relations were recognised. The graphs show that the students who improved their kanji proficiency more developed in their accuracy of self-rating skills than others. Some students did not improve their accuracy of self-evaluation skills, but the degree of falls was much smaller than other students'

increases. In the writing kanji section, improvements in both self-rating skills and proficiency were smaller than in the reading section. It was found that the students whose test scores improved to a high degree had enhanced their self-rating skills more than others and the correlation coefficients between the improvement of test scores and self-evaluation skills were higher than in the reading section. However, the degree of decrease of self-rating skills in the writing section was bigger than in the reading section. In summary, it was found that when students' self-rating skills improved, their kanji proficiency was improved, both in reading and writing sections, and the students did not improve their self-rating skills much when their actual performance on the tests had not much improved.

Graph 3: Changes in the test scores and self-ratings for reading kanji

Graph 4: Changes in the test scores and self-ratings for writing kanji
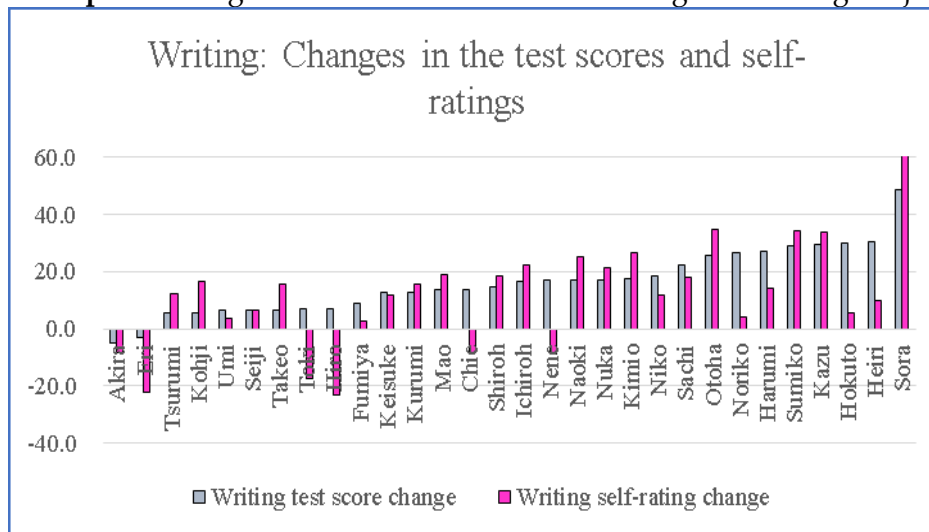
Table 2: Correlation coefficients between improvement of
self-evaluation skills and actual test scores

Reading	0.62
Writing	0.68

4.3 Improvement rate in the accuracy of self-evaluation skills for each year level of kanji

How the accuracy of self-evaluation skills for each year level of kanji changed in one year was explored. The graphs were sorted by the scores in the reading and writing tests, respectively, and compared between at the beginning and the end of the year. The accuracy of self-rating for each year level of kanji in reading was expressed in Graph 5 and Graph 6. Overall, the number of the students who underestimated their skills increased at the end of the year. Especially, more underestimation at Year 4 level of kanji appears amongst the students in the middle range in the scores. On the other hand, the overestimation in lower year levels of kanji was reduced and in the higher level was increased amongst the students whose actual test scores were under middle range. Overestimation was reduced for all year levels of kanji amongst the students who obtained high scores.

Graph 5: Accuracy of self-ratings for each year level in reading tests (beginning of the year)
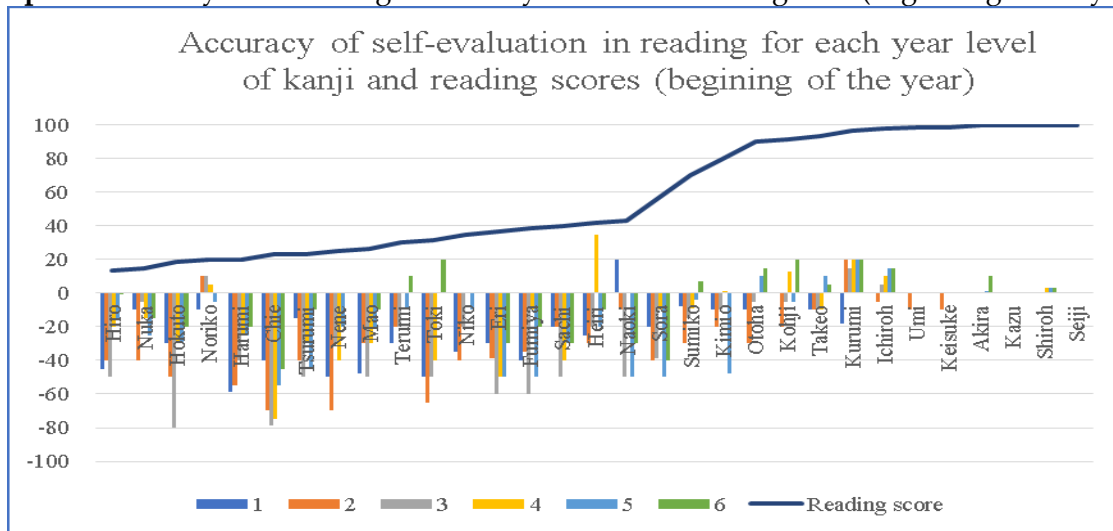
Graph 6: Accuracy of self-ratings for each year level in reading tests (end of the year)
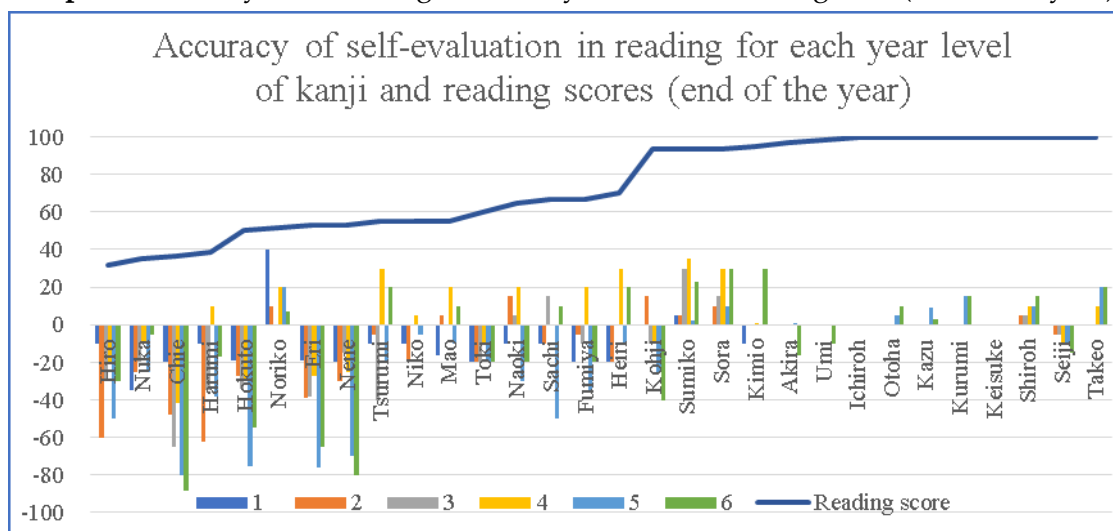
Graph 7 and Graph 8 show the results of improvements in self-rating skills in writing for each year level of kanji. Overall, the students in the right-hand side of the graph, whose scores were relatively high, showed less overestimation at the end of the year than at the beginning of the year. Especially, overconfidence in the lower year levels of kanji was reduced. Instead, an overestimation of kanji of relatively higher difficulty, especially at Year 4 level, was found amongst the students whose scores were under middle range. That indicates these students gained more confidence in the higher levels of kanji in one year but their actual proficiency did not reach their confidence levels. Moreover, underestimation was observed overall but the degree of overestimation was not as high as for the reading section. Regarding the kanji in the lower year levels, accurate self-evaluations increased but the number of students who overestimated was larger than in the reading section.

Graph 7: Accuracy of self-ratings for each year level in writing tests (beginning of the year)
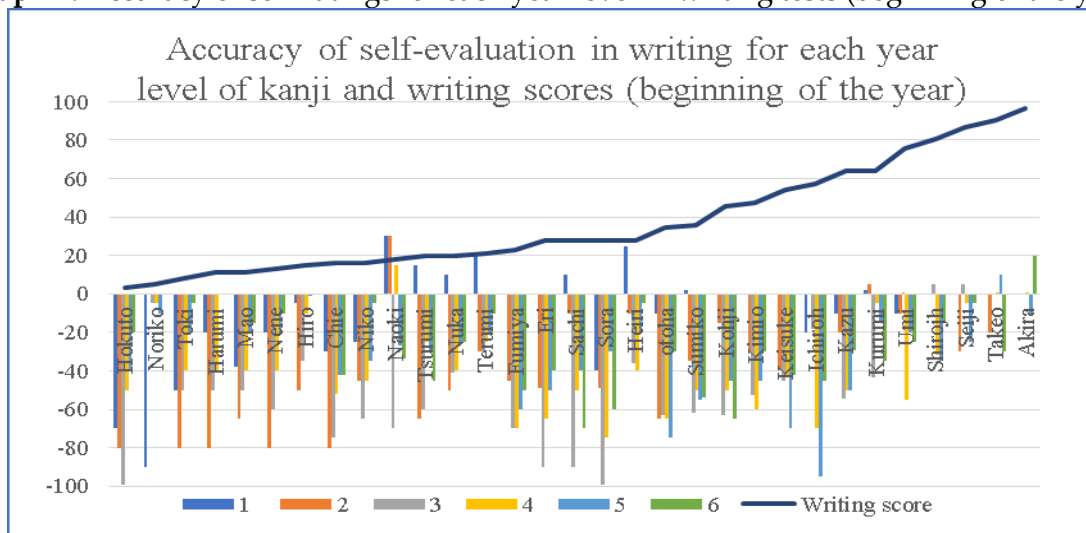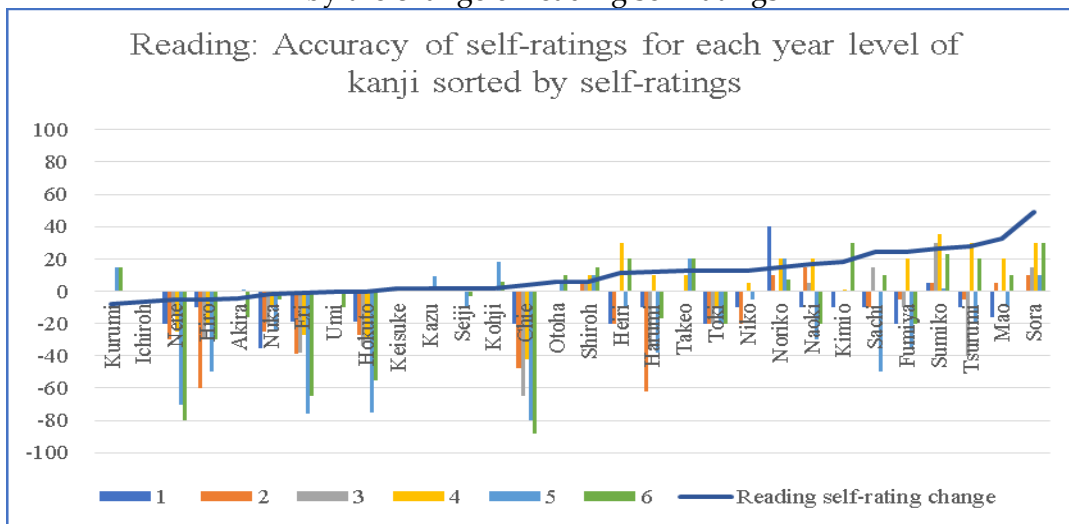

**Graph 8:** Accuracy of self-ratings for each year level in writing tests (end of the year)
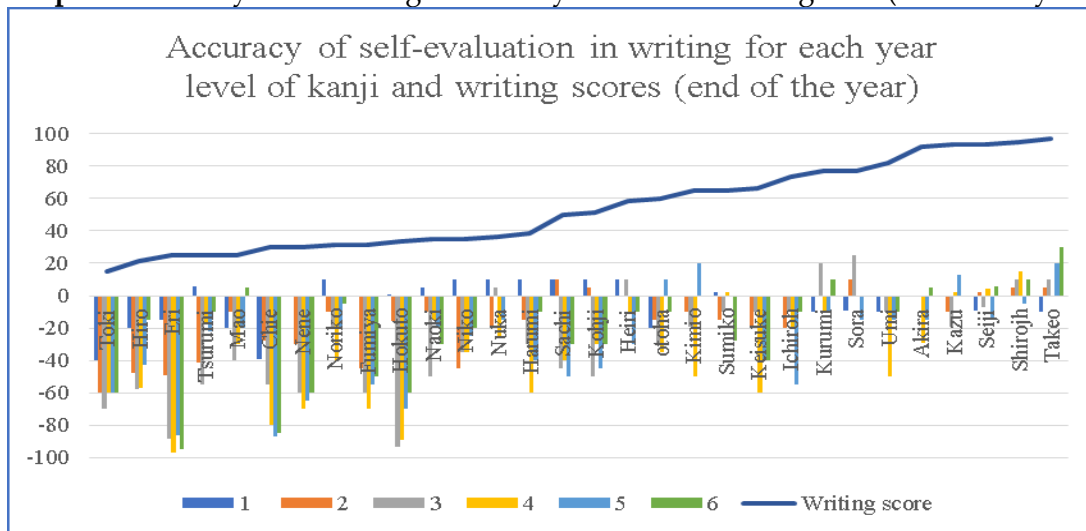
The accuracy of self-ratings for each year level of kanji was sorted by the change in self-evaluation skills to establish the relationship between improvement of self-rating skills and self-evaluation for each year level of kanji (Graph 9 & Graph 10). In the reading section (Graph 9), more underestimation was found in Year 4 level of kanji amongst the students who improved their self-rating skills; overestimation in higher levels of kanji was mainly found amongst the students whose improvement in self-rating was not high. This indicates that accurate self-ratings in Year 4 level of kanji are difficult regardless of the degree of accuracy of self-evaluation. Overestimation of higher levels of kanji was also found amongst the students who did not improve their self-rating skills in the writing section. Thus, it can be said that the students who improved their self-evaluation skills have a difficulty in recognising the skills for middle level kanji, and students who did not improve tended to misjudge higher levels of kanji for both reading and writing.

Graph 9: Accuracy of self-ratings for each year level of kanji sorted
by the change of reading self-ratings

Graph 10: Accuracy of self-ratings for each year level of kanji sorted
by the change of writing self-ratings
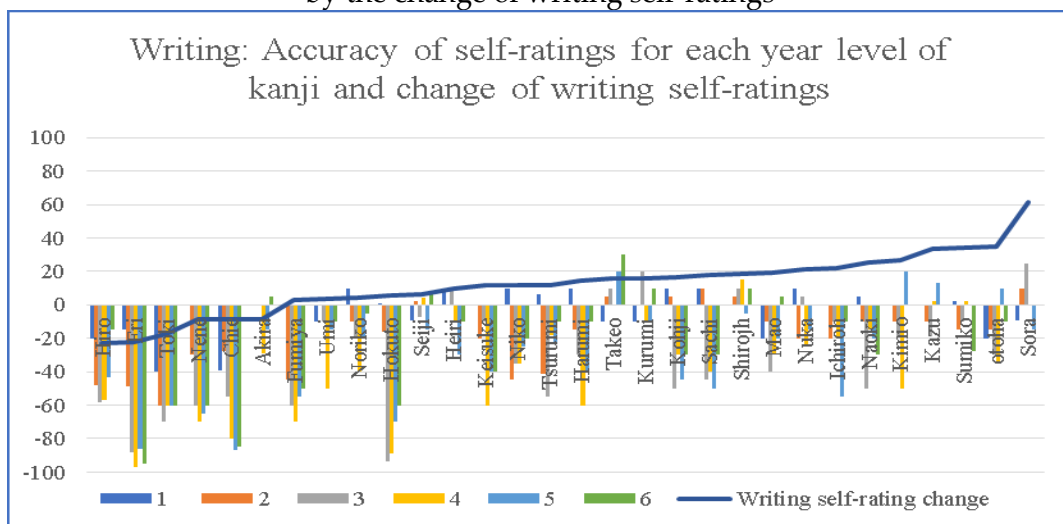
4.4 Changes in relationship between students' confidence and their actual performance for each component

The average for confidence in each year level of kanji and the scores for each kanji component (single kanji, compound kanji words, use of kanji in context) and total test score were graphed separately for reading and writing to see how the relationship between student's kanji skills and confidence changed. Graphs were sorted by the order of improvement rate of self-ratings and arranged in a clockwise direction from lower improvement rates to higher rates. To see the changes in one year, the data from both the beginning and the end of year were graphed in the same order (Graph 11 and Graph 12). Overall, performances in any of the components were lower than the confidence rates amongst most of the students at the beginning of the year but performances in most of the components were close to the confidence rates at the end of the year. Especially, the "use of kanji in context" and "compound kanji words" recorded much lower than confidence levels at the beginning of the year and improved remarkably reach to confidence levels after one year. The right-hand side of the graphs show students who did not improve or recorded less than 10% improvement rate. Most of the component skills matched the confidence amongst these students but more variations were found for the students who improved by more than 10%.

Graph 11: Confidence and the results for each component in kanji reading
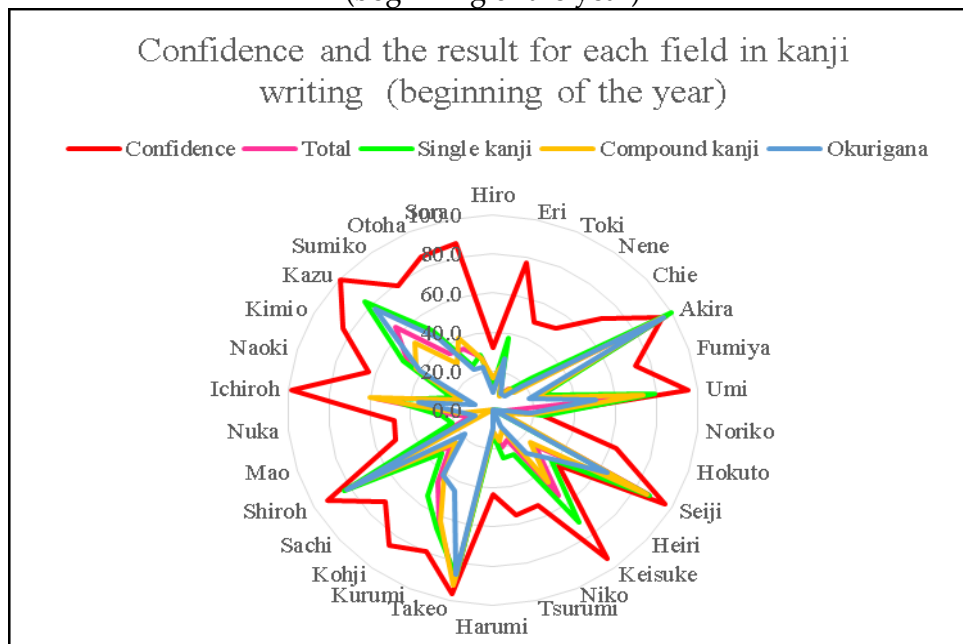(beginning of the year)
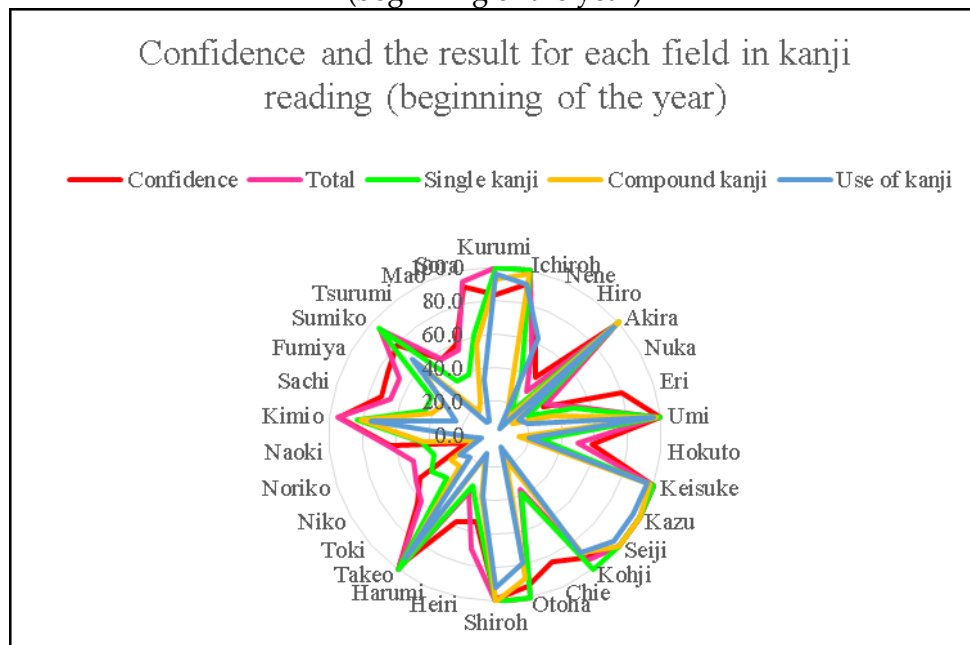
Graph 12: Confidence and the result for each component in kanji reading (end of the year)
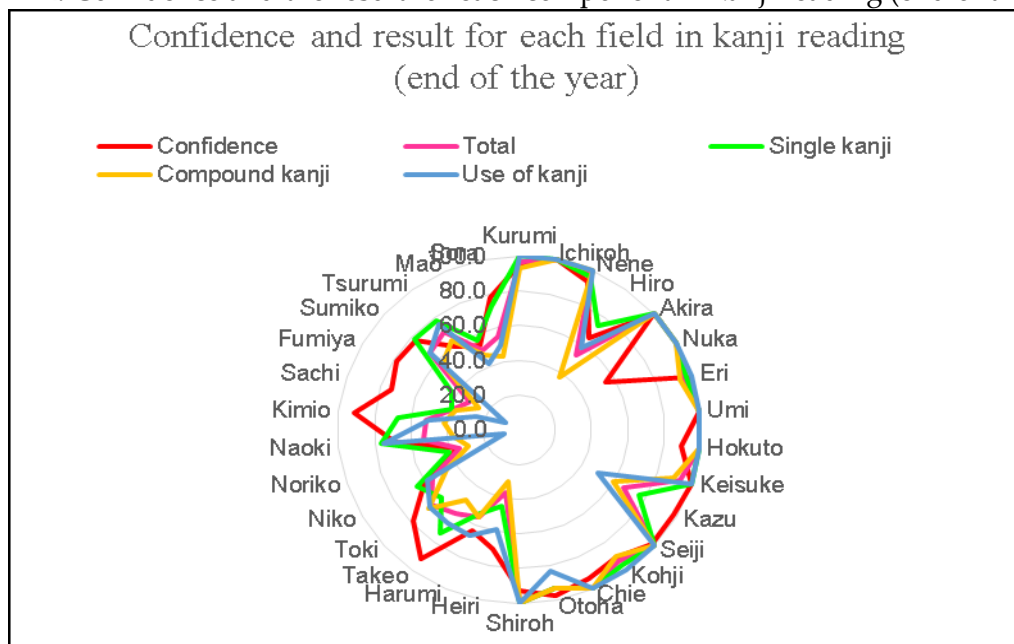

Graphs 13 and Graph 14 summarise the results of the writing section. Confidence levels and results for single kanji, compound kanji words, okurigana and total scores were examined. Similar to the reading section, the results for most of the components were under confidence levels at the beginning of the year but the difference between them became closer by the end of the year amongst three-quarters of the students, although confidence levels had not increased from the beginning of the year. This indicates that the students' recognition of their skills for each kanji component in writing kanji became more accurate. The right-hand side of the graph shows one-third of the students whose improvement rates for self-rating were under 10%. Confidence and the result for each component were close amongst the students who improved their self-rating skills in writing. It was found that some students performed better in the components of single kanji and compound kanji words than their confidence levels. For most of the students, performance of okurigana and compound kanji words were lower overall than confidence levels. In summary, relatively bigger differences between confidence and actual performance for components were found compared to the reading section but differences amongst the components were closer than one year ago.

Graph 13: Confidence and the results for each component in kanji writing
(beginning of the year)

Graph 14: Confidence and the results for each component in kanji writing
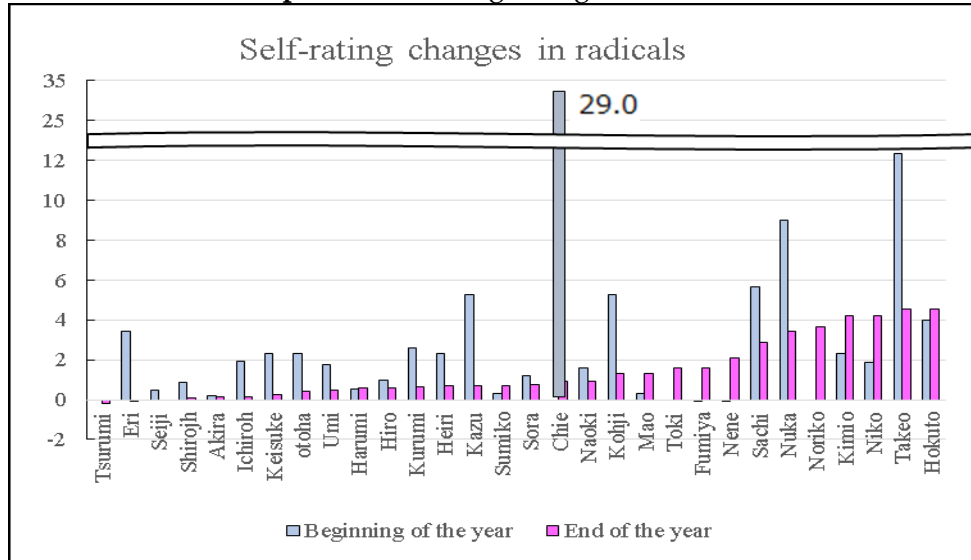(end of the year)
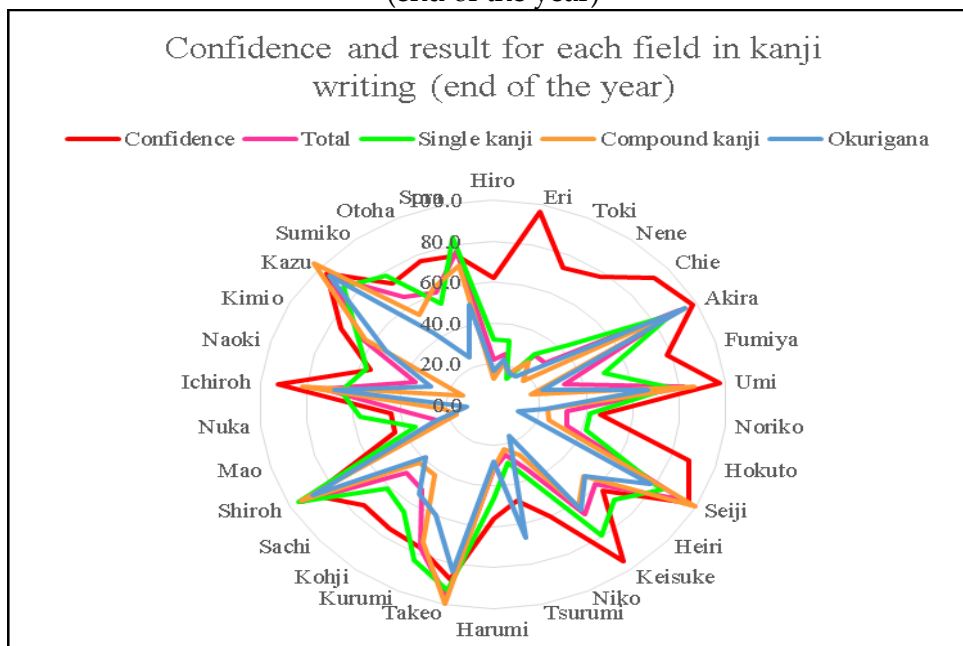
4.5 Improvement in radical self-evaluation skills

As quite a significant underestimation of radicals was found at the beginning of the year, self-evaluation rates for the beginning and the end of the year were graphed to see how they had changed (Graph 15). The graph was sorted by the self-rating skills at the end of the year. Negative bars indicate over-evaluation and positive bars shows under-evaluation. Overall, the rate of underestimation was reduced. Especially, it was more obviously reduced amongst students who had a high level of underestimation at the

beginning of the year although some students still had higher rates of underestimation than one year ago.

Graph 15: Self-rating changes in radicals

Improvements in radical test scores and self-rating skills were graphed to examine the relationship between them (Graph 16). Three students gained lower scores and ten students maintained the same scores as at the beginning of the year but scores for other students were higher at the end of the year. However, fluctuations were found between negative 8 and 2, except for a student whose self-rating was quite low at the beginning of the year. The correlation coefficient was 0.08, indicating a very weak relationship between the improvement of radical knowledge and growth in self-rating skills.

Graph 16: Improvement in radical test scores and self-rating skills
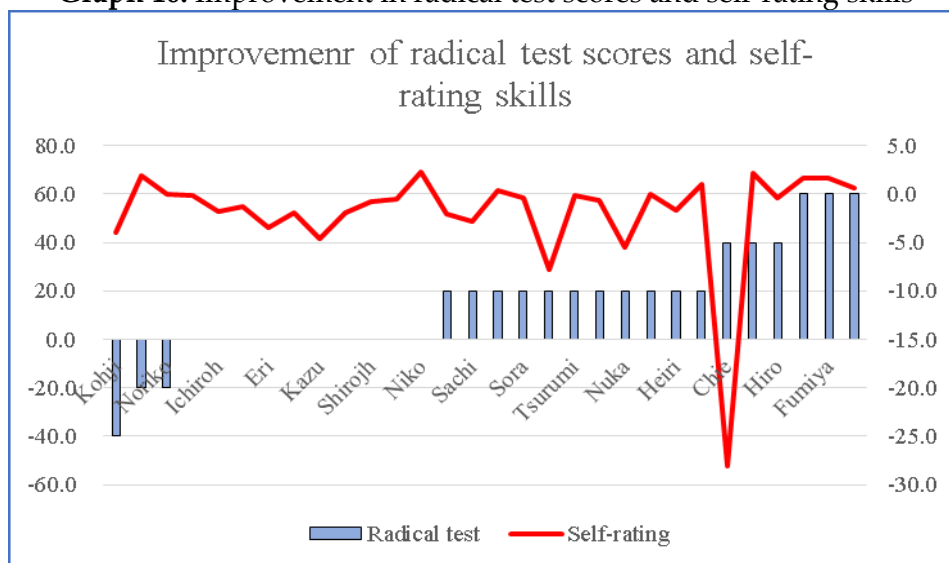
4.6 Changes in the relationship between confidence and the test order results for each kanji component

Confidence fields in kanji and the order of actual test results were graphed to see how they changed in one year. The graphs were sorted by the improvement in reading scores (Graph 17 and Graph 18). The right-hand side shows the students who improved the most. Overall, an overestimation of okurigana skills and underestimation of radical skills were found for most students but, amongst the students who recorded higher rates of improvement in the reading self-ratings, a +/-2 difference was recorded for other kanji components. This indicates that the recognition of proficiency levels amongst components improved when reading self-recognition was developed.

Graph 17: Confidence and order of test results for each component
(beginning of the year), sorted by reading scores
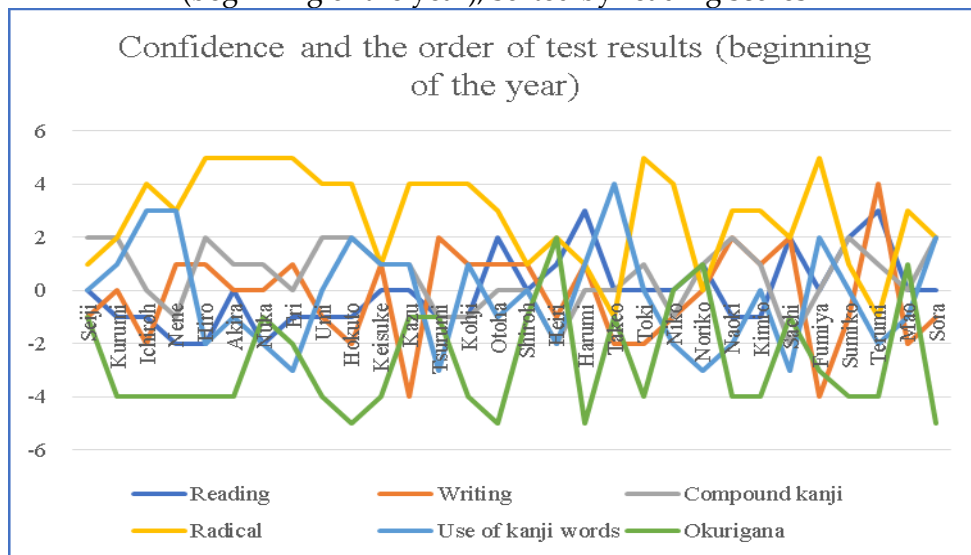
Graph 18: Confidence and the order of test results for each component
(end of the year), sorted by reading scores
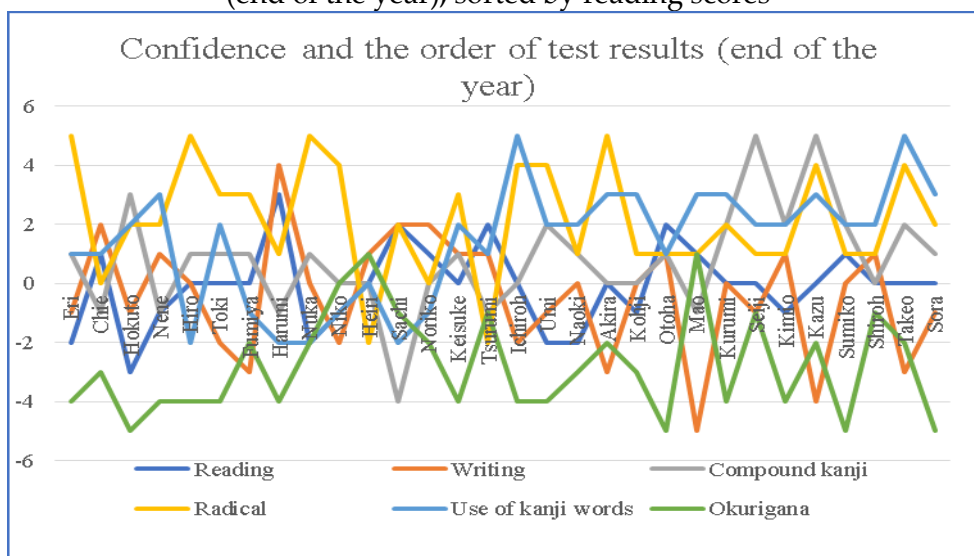
Graph 19 and Graph 20 shows the order of confidence for each component sorted by the improvement in writing scores. Bigger fluctuations were found compared to reading scores. The underestimation in use of kanji in context was as big as the underestimation for radicals amongst the students whose self-rating skills had improved. Okurigana and writing were overestimated and large fluctuations were found in compound kanji words for these students. This indicates that accurate self-recognition amongst each component of kanji and improvement of kanji writing skills were not significantly related.

Graph 19: Confidence and order of test results for each component
(beginning of the year), sorted by writing scores
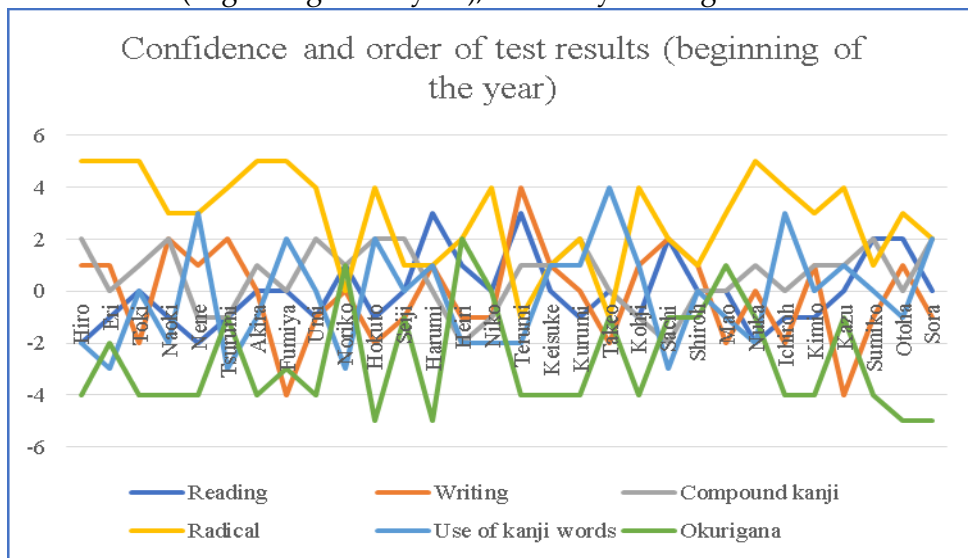
Graph 20: Confidence and order of test results for each component
(end of the year), sorted by writing scores
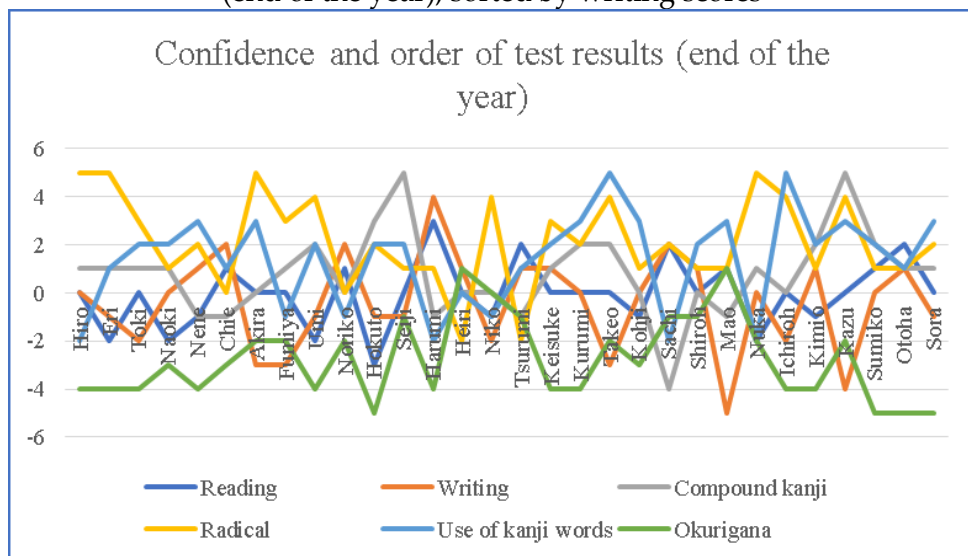
5. Discussion

In this section, the research questions will be discussed based on the results of the analysis. It was predicted that an improvement in kanji proficiency contributes to the enhancement of the accuracy of self-recognition of kanji proficiency and effects to elicit an appropriate recognition of proficiency in each component of kanji. The research questions below were established based on the predictions above.

How does improvement of self-evaluation skills of kanji proficiency contribute to kanji learning?

- How does an individual's improvement in kanji proficiency relate to his/her improvement in self-rating? Is there any relationship between the change in a students' self-recognition of kanji for each year level and a shift in kanji proficiency?

In order to explore how students improved their recognition of kanji skills and the relationship between improvement rates in self-rating and actual kanji proficiency, how each student recognised his/her kanji skills and performance in kanji reading and writing tests was compared to previous data obtained a year ago. Overall, it was proven that students' self-evaluation skills were enhanced along with their improvement of kanji proficiency but different tendencies were found in the areas of reading and writing kanji.

An overestimation of lower year levels of kanji amongst students whose kanji proficiency was under the middle range, and both overestimation and underestimation of middle year levels of kanji amongst the students in middle range, were observed in the study conducted at the beginning of the year. As a result, the use of a dictionary and a focus on the accurate use of kanji, especially for the lower year levels of kanji, were highly encouraged during the year. Moreover, the accurate use of okurigana was strictly marked on regular kanji tests during the year.

In this study, overall self-recognition skills were improved, and this trend was stronger in reading kanji. As some students experienced reduced self-recognition skills in writing, it is assumed that self-evaluation in writing is harder than reading even after one year of kanji learning that is focused on self-rating. A big improvement was found amongst the students whose self-evaluation skills were relatively low and it can be said that this one year of kanji learning was more effective for these students (Procedure 1）. It was also found that the improvement in kanji skills was highly related to the improvement in self-evaluation skills as the students whose self-rating skills improved showed higher rates of improvement in their kanji test scores, especially in writing. This indicates that an improvement of self-evaluation skills in writing is hard, but a higher relationship between the improvement of proficiency and self-rating skills was found in writing; therefore, enhancing writing kanji skills produces higher rates of self-evaluation skills than reading (Procedure 2).

Different tendencies in the accuracy of self-evaluation for each year level of kanji were found between kanji reading and writing. More underestimation was found overall and overestimation increased for higher year levels of kanji in reading. Possible

reasons for the reduction of overestimation for easier levels of kanji could be the reduction of careless mistakes. It was also predicted that the students would start to recognise that they did not understand these easier kanji although they believed they could at the beginning of the year. As the scores for reading improved for most of the students, it is assumed that the former is the reason for this phenomenon. An increase in overestimation for higher year levels of kanji amongst those whose self-rating skills had not improved enough may indicate that these students had more confidence for higher level kanji after one year of kanji training; however, their actual proficiency did not improve as they expected, as a result influencing the accuracy of their self-evaluation skills. The increase in underestimation for the middle year levels of kanji amongst the students in the middle range on the scores could be the result of a lack of recognition of how much they improved their kanji skills; these students actually improved their scores for all the year levels of kanji and, therefore, it can be said that these students recognised their skills well for other year levels (Procedure 3).

In writing skills, the number of the students who overestimated higher levels of kanji was much bigger than for reading skills amongst the students whose scores were under the middle range and differences between confidence and actual scores were large. Moreover, more overestimation for higher levels of kanji was found amongst the students whose improvement in self-rating was not high, and this may indicate that these students started to have confidence for kanji but did not reach that level on the test, which is similar to reading. In addition, these students overestimated for the middle year levels of kanji; therefore, additional practice for these levels of kanji need to be encouraged (Procedure 3).

- How do students' self-recognition of their skills for each kanji component change and is there any relationship with the change in self-evaluation for the entire kanji?

Overall, it was found that the test results for most of the components of kanji became closer to the confidence levels, especially for reading. This indicates student performance for each component reached their confidence levels. Although an overestimation in okurigana and an underestimation in radical skills were still found, it is assumed the students who improved their self-rating skills started to recognise their strengths and weak points amongst kanji components.

Components which did not reach the confidence ratings were still recognised in writing but the differences between confidence and actual performance for each component became smaller over the year. Therefore, it can be said that proficiency in all components approached certain levels that each student estimated. As it was found that skills in single kanji were closest to the confidence and skills in okurigana and compound kanji words tended to maintain a distance from the confidence, it was considered that students tend to recognise their writing skills based on whether they can write single kanji. Nonetheless, differences between the performance in other components became smaller and it can be said that self-evaluation skills improved with

the improvement of proficiency. However, it is hard to find tendencies in the characteristics of the students whose self-rating skills were enhanced in writing, and accuracy of the recognition of confidence fields related to improvement in reading skills; therefore, the importance of improvement in reading self-evaluation skills should be recognised. (Procedure 4 & Procedure 6)

Regarding the self-evaluation of radical skills, a slightly high level of underestimation was still found but it became more accurate compared to the beginning of the year. However, a relationship between radical knowledge and self-rating skills was not found; therefore, it can be said that students started to have more confidence regardless of their actual radical skills. As radical learning was frequently included in the class with kanji learning, it is considered that students became more conscious about radicals (Procedure 5).

6. Conclusion

Based on the analysis of the results and discussion, implications for further teaching and study will be explored.

Students improved both their self-evaluation skills and proficiency for the lower year levels of kanji but did not accurately recognise their skills in the middle year levels of kanji. Large variations were found in self-evaluation skills amongst the students; therefore, focusing on kanji in the middle year levels would be necessary in the future. Moreover, many students overestimated the higher year levels of kanji and the appropriateness of their self-rating cannot be found. However, as Narciss (2011) mentions, being confident can draw out a positive attitude towards learning; overconfidence is not always a negative aspect and encouraging students to match their skills to their confidence levels is also necessary.

However, focusing on the levels of difficulty of kanji, such as easy and most frequently used levels, medium levels, and higher level of kanji, rather than sticking to year levels of kanji, would be helpful for students' future learning. Moreover, even for easy levels, it could be hard for students to use kanji when it is used in compound words, or when students do not know the meaning of the compound words. Introducing and practicing kanji and vocabulary in topic-based activities and increasing the number of kanji that students can use in various contexts would be a future approach.

It was found that the recognition of reading skills related to appropriate self-recognition of confidence in all fields of kanji; therefore, it would be useful to practice reading single kanji, compound kanji words which include the single kanji, and using the words in context when kanji is introduced in order to enhance the reading self-rating skills and self-evaluation skills.

Improving self-rating skills in writing is also important as the improvement rate of writing kanji skills and self-evaluation skills for writing were closely related. The use

of a dictionary and getting students to focus on writing the correct shape of each kanji should be continuously encouraged.

This study was a follow up to the research conducted with the same students the previous year. New findings have been made by this study. A continuous approach for the same students and also for new students in the next school year would be highly recommended. Saiki, Nakamura, and Ogasawara (2012) found that 70% of the students who set up their own goals of self-assessment activities performed well; therefore, letting students set their own goals after the first tests at the beginning of the year would be effective to elicit higher improvement in their self-evaluation skills.

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