Teaching Learning Strategies for Learner Success

Kanji are a component of the Japanese writing system that originated from Chinese characters. There are about ten thousand kanji in use in Japanese literature, but knowledge of only the 2000 most frequently occurring of these is needed to be functionally literate in Japanese (Taylor 1995).

It is widely documented that learners of Japanese struggle with the mastery of this script, particularly if their first language’s script is alphabetic (see, for example, Bourke 1996, Douglas 1992, Dwyer 1997, Shimizu 1999, Toyoda 1998, Toyoda and Kubota 2001). It has been suggested that students need assistance to overcome the formidable barrier to literacy that kanji creates (Bourke 1996, Hataso 1989). One aspect of language learning that has interested researchers in this field is the examination of learning strategies used by successful learners of kanji to memorise this script.

KANJI LEARNING STRATEGIES

A number of people have looked at the relationship between learning strategies and kanji recollection ability (see, for example, Bourke 1996, Fujiyoshi 1996, Toyoda and Kubota 2001). Collectively, this research has highlighted some strategies that successful learners of Japanese use when learning kanji. According to Paradis, Hagiwara, and Hildebrandt (1985), kanji processing, unlike most other scripts, is visual, i.e., when memorised successfully, it is processed from grapheme (symbol) to meaning and then to sound. According to Toyoda (1998), students often employ a pictorial strategy to help them relate the character to a picture representative of its meaning. However, as most kanji are not pictographs, and as students encounter more complex and abstract kanji, a higher level of processing skills is required to memorise these kanji. Kanji can be categorised into three types (Paradis, Hagiwara, and Hildebrandt 1985):

- pictographic kanji, which are pictographic representations of meaning
- abstract kanji, which are arbitrary symbols of meaning
- complex or compound kanji, which are made up of elements of other kanji.

Bourke (1996) identified fifteen strategies, the most popularly used of which was relating the kanji to its meaning. The second most commonly used strategy was to examine the radical or kanji component. Bourke also found the most successful kanji learners used a higher number and wider range of strategies than the less successful learners, which concurs with the findings of Oxford (1989: 199) that more effective students use strategies more consciously, purposefully, appropriately, and frequently than do less able.
students’. When kanji or kanji elements were not meaningful to students, Bourke found a mnemonic approach to be helpful. This observation concurs with a study by Fox et al. (1999: 304) who found learners ‘learned more of the kanji characters and their meanings when the kanji were presented using descriptive mnemonics’ than when they were presented without them.

Fujiiyoshi (1996) used Bourke’s study as a basis for her qualitative case study of six university students of kanji and found that while the results concurred with Bourke, learning strategy choice differed among individuals. Such results reflect Oxford and Nylkos’ (1989) observations that strategy choice is affected by other factors. Toyoda and Kubota’s (2001) study into the learning strategies employed by successful learners of kanji were pivotal to the present study, including Toyoda’s (1998) notion of ‘graphemic awareness’, which is the ability to break kanji into smaller parts for analysis. Toyoda and Kubota (2001) claim that graphemic awareness is essential if students are to memorise kanji effectively. Their study also found that pictorial strategies were useful for beginning kanji, and that repetitive writing, which is one of the most commonly used teaching methods in the classroom (Shimizu 1998), was the least successful learning strategy in terms of results in kanji memorisation.

Bourke (1996), Fujiiyoshi (1996), and Toyoda and Kubota (2001), therefore, provided a good base of knowledge of kanji learning strategies, but little had been done on the effects of learning strategy intervention in kanji learning. Only one study of kanji teaching approaches was located in the literature reviewed, Flaherty and Naguchi (1998) taught two groups of Japanese learners a list of twenty kanji using a whole-kanji approach with one group and a component analysis approach with the other. The whole-kanji approach embodied cognitive strategies such as pictorial association, repetitive writing, and other learning activities which promote rote learning. The component analysis involved cognitive strategies similar to those embodied in Toyoda’s (1998) notion of graphemic awareness. The study found that students taught through the component-analysis approach outscored their counterparts in two separate studies in both short-term and long-term memorisation. Such results confirm earlier observations that component-analysis or graphemic awareness is an effective tool for kanji memorisation.

Despite these previous findings, however, two areas had remained unexplored. Firstly, the majority of the studies had been carried out on university-age learners of Japanese, with little to no research on younger learners’ cognitive kanji learning strategies. Secondly, apart from Flaherty and Naguchi’s (1998) effort to examine the effects of kanji teaching approaches, there had been little research into the possible effects that the teaching of successful learning strategies would have on overall kanji memorisation ability. The present study, therefore, aimed to address two questions:

- What kanji learning strategies do primary school age learners of Japanese use when memorising kanji?
- Can kanji learning strategies observed in successful language learners be taught to less successful learners to improve kanji learning ability?

**SETTING AND PARTICIPANTS**

The participants were a class of Year 6 students who were learning Japanese at a primary school in Sydney. All students had been learning Japanese for between two and three years and had been instructed by the same teacher and with the same curriculum.

**STUDY METHOD**

The method that underpinned the study was single-case research, which Nunan (1994: 82) defines as:

...similar to experimental research in that some type of intervention usually occurs... and measures what happens as a result. The difference between experimental research and single-case research is that experimental studies typically involve comparing two or more groups, while single-case research, like the case study, involves a single individual or group and does not attempt to set up experimental and control groups.

The study used the framework of single-case research to measure changes in student achievement before and after the intervention.

A pilot study was conducted before the main study to refine the research method and instruments to the following. The students were given a list of twenty kanji, which were chosen to proportionately represent a range of kanji types and complexities. The students were given twenty minutes to memorise the kanji in preparation for a test. After the study period, the students completed a questionnaire concerning the learning strategies they had used to memorise the kanji. The first part of the questionnaire required students to describe these learning strategies in closed-question format. The second part of the questionnaire asked students to comment on how they had remembered certain kanji in order to
Table 1: Comparison of test results of the ten least successful learners

provide a deeper understanding of their cognitive processes. After an hour of other study, the students completed a test of the twenty kanji where they were required to write the meanings next to each of the twenty characters. The students who remembered all twenty kanji correctly were identified as the most successful learners and the students who remembered the least number of kanji were identified as the least successful learners.

Three of the most successful learners and two of the least successful learners were interviewed to elaborate on the learning strategies they used to recall the kanji in the study period and the test. The results of the questionnaires and interviews were collated and some successful kanji learning strategies were identified.

A week later, the class was given a second list of kanji of similar difficulty and composition as the first. The investigator explicitly told the students the learning strategies that they would use during the study period. For the first half of the study period the class studied together, voicing opinions on how best to remember the characters using the strategies explained by the teacher. For the remaining ten minutes they studied amongst themselves, using techniques observed from successful learners. After an hour of further study, the students completed a test of the same format as the first.

The results of the two tests were compared to see if an improvement in kanji learning efficiency was achieved.

FINDINGS

Results of the first kanji test

The average score of the class of the first kanji test was 15.8. For the researcher’s purposes, the four students who recalled all twenty of the kanji were identified as the most successful learners, and the three students who recalled less than half of the kanji were identified as the least successful learners. The proportion of incorrect responses per kanji varied from 0% (‘eye’, ‘mouth’, ‘person’, ‘fire’, ‘water’) to 52–58% (‘walk’, ‘finger’, ‘arm’, ‘speak’, ‘speech’), suggesting some kanji were more difficult to recall than others. Further analysis of the results concurred with this preliminary observation. On average, 58% of students recalled compound kanji correctly, compared to 70% for abstract kanji and 99% for pictorial kanji. The results of the first test strongly indicate that students applied a pictorial strategy, which concurs with Toyoda’s (1998) observations. These results also indicate that as kanji become more structurally complex and mentally abstract, the difficulty students experienced remembering them increased.

Learning strategies described by the students

The strategies presented in the questionnaire focused on cognitive strategies, although allocations were made for metacognitive and social strategies. The most widely used strategies were self-testing (56%) and peer collaboration (56%). The use of pictorial strategy (56%) was the most popularly used cognitive strategy by the students. When strategy use was contrasted with the results of the first kanji test, it was observed that the strategies involving component analysis were the most successful strategies.

The students’ comments on the questionnaire provided further insight into the cognitive processes they used to memorise different types of kanji. Comments indicated that the less successful students were not conscious of the strategies they employed when memorising kanji they used, writing comments such as ‘memorised it’, and ‘I tested myself’, and ‘I know it’, compared to comments made by the most successful learners, such as ‘the bottom part of teeth looks like a mouth’ for the kanji ‘teeth’, and ‘the kanji meaning eye was on top of it and you look with your eye’ for the kanji ‘eye’. The comments made by students provided a better understanding of the cognitive processes they had used, so the interviews were employed to deepen an understanding of the processes involved when the students had studied and recalled the kanji.

Results of the interviews

Three of the most successful learners and two of the least successful learners were interviewed to gain a
deeper understanding of the cognitive strategies used when memorising kanji. The interviews demonstrated that the most successful learners were more cognitively aware of the strategies they had employed during kanji memorisation than the least successful learners were. The most successful students used a wide variety of strategies that they were able to describe, as can be seen in this excerpt from an interview with one of the students (S = student, I = interviewer):

S: First I just like looked at the symbols and then the words together to memorise them first. And then about after five or ten minutes of that I covered it and I just like I guess I covered it and then for each symbol I tried to remember the meaning without looking at it. And then I did it like mixed around. Then after that I wrote it.

I: How did you try to remember them?
S: Some of them they look like what the actual word is. So I did that. And some of them had a special thing which I remembered.

I: Can you give me an example?
S: Like for the finger. I... This bit looks like the stitch in a finger (pointing to left component of character).

I: Can you give me another example?
S: For fire it's got (the character of) a person in it, so I remembered the person was in the fire.

In this excerpt, the student demonstrates a conscious use of mnemonics, pictorial association, and graphemic awareness by breaking the kanji down into its smaller components. She also explained a metacognitively organised study regime in which she tested herself on the kanji. These comments were in contrast to the learning strategies employed by the least successful students. These students used repetitive writing and demonstrated a less cognitively aware approach to kanji memorisation, using techniques no wider than pictorial association.

The interview, therefore, provided a deeper understanding of the conscious application of learning strategies by the more successful learners, and highlighted areas of further development in the least successful learners.

Results of the second kanji test

The second list of kanji was taught to the students using the wide range of cognitive strategies observed by the most successful learners. During the study period, the successful learners were called upon to explain to the class the methods that they would use to memorise each kanji. The students were then encouraged to study using the regime observed from the successful learners’ interviews. A test of the second list of kanji was administered and the results of the two tests were compared to determine changes in kanji learning efficiency.

A comparison of the test results of the first and second kanji test showed marked improvement in the ten least successful learners (Table 1).

The biggest improvement was seen by student P who recalled all 20 kanji in the second test compared to only 9 in the first. Significant improvement was also made by students B, C, U, and V. All other students, not depicted in the table, recalled more kanji in the second test than in the first, with the exception of students A and Y, who recalled just one less kanji.

DISCUSSION AND CONCLUSION

Numerous writers of learning strategies have indicated that strong second language learners use a greater number and wider range of strategies than less effective learners (see, for example, Bourke 1996 and Oxford 2001). The results of this study have shown that the four most successful students in the first test used a number of cognitive, mnemonic, metacognitive, and social learning strategies during the kanji-learning task.
The least successful learners, however, used fewer cognitive strategies, very few mnemonic strategies, and less effective metacognitive and social strategies than the successful learners. Bourke (1996) found pictorial strategies to be helpful to beginner students, but more complicated kanji needed to be broken into meaningful parts. Toyoda and Kubota (2001) found kanji analysis to be the most effective strategy in kanji memorisation, and without graphemic awareness students would be unable to memorise more complex kanji. This study found successful learners employed a number of cognitive strategies, including a pictorial association, analysis of the kanji graphemes, and comparison of these graphemes with other kanji in their list. The cognitive learning strategies of the four least effective learners, however, were confined to pictorial association only. As a result, the least successful learners were unable to successfully memorise kanji that were not pictographic representations of meaning.

When kanji or kanji elements were not meaningful to students, Bourke (1996) found a mnemonic approach to be helpful. Furthermore, Fox et al. (1999; 304) found that learners ‘learned more of the kanji characters and their meanings when the characters were presented using descriptive mnemonics’. Mnemonic strategies were used in conjunction with cognitive strategies by the most successful learners in this study. But only one example of mnemonic strategy use was reported by one of the least successful learners. These results suggest mnemonics is an important strategy in kanji learning when other strategies are insufficient, concurring with the results of Bourke’s 1996 study.

Previous research into kanji processing has largely focused on university-age learners of kanji with little to no research on younger Japanese language learners. Age is a major influential factor in second-language development (Ellis 1994). Thus, one of the aims of this study was to see if strategy choice in kanji learning differed in this unexplored age group. The same strategies were observed in this study’s primary-school-age learners as those outlined in previous studies of university-age learners, indicating that kanji learning strategies did not differ greatly between the two age groups. This is interesting in that the students in this study, unlike university-age learners of kanji, had no previous instruction on how to learn kanji. Thus, these learning strategies were instinctive and often subconscious processes, which were used to memorise the kanji effectively. The implications of such findings are that the research results of studies into university-age learners can most likely be transferred to groups of younger learners.

The aim of the study was to examine whether kanji learning efficiency could be improved through the teaching of successful kanji learning strategies to younger learners of Japanese. The results of the study showed an improvement in kanji learning efficiency of all of the least successful students in the first kanji test. These findings have implications for kanji learning strategy intervention in the early stages of Japanese language curriculum in schools. According to Bourke (1996), at the early stages of kanji instruction teachers need to guide students to help them build upon their memorisation techniques for associating kanji with their meanings. She says:

> It is the teacher’s role to promote positive attitudes to kanji learning by providing strong guidance on how to approach the task in the initial stages. Students should be introduced to the range of strategies available for learning kanji and taught how to use them. They should be encouraged to develop the skill of breaking kanji into parts and relating parts to other kanji they know. If teachers make the investment in the early stages to provide the necessary guidance, students will be able to develop their own kanji learning style and become independent learners. (Bourke 1996: 245)

Conclusions of this study support the conclusions stated in Bourke’s study. The study has shown that the introduction of kanji learning strategies in the initial stages of kanji instruction can help improve learners’ kanji learning efficiency.

A major implication of the study is in the teaching of kanji for teachers of Japanese to beginner learners. Teachers should teach students the learning strategies that have been shown in this study and previous studies to benefit kanji memorisation at an early stage of kanji instruction. This can be done explicitly or through a similar style of action project as carried out in this study.

Kanji learning is still a very neglected area in teaching Japanese as a foreign language in Australia due to its perceived difficulty; however, avoidance in teaching it means students will continue to struggle with literacy in the language. This study indicates that beginning students are able to learn this script effectively with the help of appropriate kanji learning strategy instruction. Students should be encouraged to learn kanji using strategies such as those described in this study, which will promote easier memorisation and a more positive attitude toward kanji instruction.

REFERENCES

See page 38.

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