

Use of Computers in Japanese Language Instruction

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These past few years, computers have become essential in our daily life. Students have become accustomed to using computers in their studies and Japanese language software is gradually becoming available to us all. I would like to discuss the applications of computers to Japanese language instruction, especially on *kanji* learning. First of all, I will analyze the use of a Japanese word processing program at Michigan State University. Then, I will discuss the usefulness of computer applications in teaching Japanese, especially *kanji* learning.

The conclusion that will be reached in this paper is that computers could be very useful to students, especially at the intermediate and advanced levels and where learning *kanji* is of great importance.

(I) Analysis of the use of a Japanese word processing program at Michigan State University

The second year Japanese students at Michigan State University are using the Japanese word processing program "EGword 2.2" with Macintosh Plus computers.² The students use it on a voluntary basis at a language lab. Since these students are using a word processing program as a part of the second year composition course, I will introduce the course first. (This information is based on a report by Mr. Yamamoto who teaches the second year composition.)

This course meets twice a week for one hour. Mr. Yamamoto assigns a 300 to 400 character essay every week. Essays are collected on Tuesdays, errors are pointed out, and they are returned to students on the Thursday of the same week. The students spend the weekend revising their originals according to the advice given on their first draft. At the same time, the students are working on their second essay first drafts. And on Tuesday the students come to class with their final drafts from a week before and new drafts.

At the beginning of each term Mr. Yamamoto sets aside a couple of hours for an introductory guidance lecture on the Japanese word processing software. Those who use

the Japanese word processing program are asked to leave a copy of the final versions of their essays on the disk placed in the lab. Mr. Yamamoto edits essays left on the disk in the form of newsletters every week. These newsletters are distributed in his composition class so that all the students can at least be aware of the word processing program in the lab.

Using a questionnaire, I asked the second year Japanese students their opinions concerning computer use. Ten students among 20 are using the Japanese word processing program. The questions are focussed on *kanji* learning. A summary of their answers are as follows:

- (1) As to how many hours the students spend using the Japanese word processing program each week, eight students are using it less than two hours, and the other two students are using it two to six hours each.
- (2) As to how long they take to type 200 Japanese characters (including *kanji*), two students answered it takes less than 15 minutes, four students said 15 to 30 minutes, and the other four said 30 to 60 minutes.
- (3) In asking why they use a word processing program, 8 students answered that it is easier to find *kanji*, 7 students answered that it is easier than hand-writing, 3 students answered that they like computers, and 3 students answered that they can learn Japanese by themselves. (The total is more than ten, since they choose more than one answer.)
- (4) In learning how to write *kanji*, five students answered that word processing program is useful, while 2 students answered that it is not useful. Three other students think that the word processing program makes no difference.
- (5) In learning how to read *kanji*, 8 students answered that word processing program is useful, while 2 students did not.
- (6) For the question that "if there were an interesting program in learning *kanji*, I would use it", everyone agreed.

Judging from the compositions they made with the word processor, there are three groups in regard to their attitude toward its use from the point of *kanji* use: (i) the first group is those who seem to be satisfied with *hiragana* characters (which means that the number of *kanji* is not satisfactory for the second year level); (ii) the second group is those who use only already learned *kanji* in class, (iii) the third group is those who try to use as many *kanji* as possible by utilizing the program.

The number of *kanji* the students used in their 300 to 400 character essays varies 10 to 50 words.³ (The same *kanji* -compound in an essay counts as one.) In points of sentence structures, grammatical mistakes, variety of expressions and the quality of content, the essays with many *kanji* and the ones without cannot be distinguished, in

other words, the essays with many *kanji* do not necessarily reflect the level of overall quality. (The compositions in the newsletter are final/second drafts, but there are still many mistakes.)

I also noticed that there is no incorrect use (or rather choice) of *kanji*. The above fact indicates that most students are not taking a risk of using/choosing *kanji* they haven't learned yet. Since the purpose of the course is not *kanji* learning (although *kanji* is an important element), these compositions can indicate that when they are not forced to use *kanji*, they tend not to use them. (Native Japanese like us do the same thing.) Therefore, if we want students to learn *kanji*, we have to give some guidance for them to use *kanji*.

It is a matter of fact that there is a significant difference between handwriting *kanji* and selecting *kanji* by computer in terms of the accuracy of the characters. When we correct the students' hand-written compositions, we notice that average students usually make various minor misspellings of the *kanji* such as one dot missing, one extra bar, etc., especially in compositions by the first and second year students. Computer's *kanji* are of course always accurate as long as the right ones are chosen. Therefore, in terms of learning *kanji* writing by using a computer, there are two possibilities: one is that some students may not learn how to write *kanji* accurately, the other is that some may learn *kanji* by looking at the same correct *kanji* over and over on the computer. The students' responses to survey question (4) shows that some students do not agree with the usefulness of *kanji* writing practice by a computer. Therefore, we have to keep in mind that *kanji* writing practice by hand (including *kanji* quizzes) is essential, especially for beginning students who have to learn basic *kanji*.

Although *kanji* writing practice may not be useful for all students, when it comes to reading practice for *kanji*, majority of students agree with the usefulness of the computer. (See survey question (5).) In addition, the reason why they use a word processing program in question (3), 7 students answered that it is easier to find *kanji*. This means that it is easy to choose the right *kanji* among several *kanji* homophones. In other word, even students who cannot write the right *kanji* can recognize it.

Not only students learning Japanese, but most native Japanese users agree that word processing programs are useful for *kanji* recognition. There are many *kanji* we know of, but do not instantly come to our mind when we are writing.

The students using a computer prefer it to writing by hand, although it takes more time by computer. It takes about 30 minutes for them to type 200 Japanese characters (question (2) above), which is probably twice or three times as long as by hand-writing. This fact as well as the other positive answers by the students concerning *kanji* reading and writing, indicates that computers can be a useful tool for learning *kanji*. Because, if they enjoy using the computer (and they must, to be willing to put up with the slow rate of *kanji* input), then they are likely to learn *kanji* through it. And, if there are reasonable guidance or programs, they would learn more efficiently.

(2) The usefulness of computer applications in teaching Japanese, especially *kanji* learning

When we use computers for Japanese language teaching, we have to keep in mind that the use of the computers should be more effective and practical than ordinary teaching, otherwise we are wasting our time and money. For the first and second year Japanese classes, there are many important things to teach. Additionally, teaching hours are limited and students are busy with other classes as well. In this situation, computers are limited to either (1) an entertainment role to break routine classes, or (2) extra activities just like assigning listening practice at a language lab.

Focussing on *kanji* learning, specialized programs such as *kanji* stroke-order learning, illustrations of *kanji* origins, and reading practice for basic *kanji* and their compounds would be useful for elementary and intermediate stages. I understand that the University of Tsukuba and the University of Nagoya in Japan have been using these types of programs with positive results (Otsubo 1988).

I also think that the voluntary use of a word processing program for the second year students (as introduced) is useful.

However, what I would really like to see, is programs for the intermediate to advanced levels of study.⁴ It is difficult for American students to reach the "real" advanced level, in other words, to approach the level of average native Japanese adults.

The biggest problem (or at least one of the biggest problems) confronting the intermediate student is that learning *kanji* and their compounds is a formidable task. At present, the first year Japanese course (a nine months, four to five credits) requires 50 to 300 *kanji*, depending on individual institution in the U.S. (For example, 150 *kanji* are assigned at Michigan State University). The average second year Japanese course (nine months, four to five credits) assigns 300 to 800 *kanji*. (400 at Michigan State University) These numbers are very small if you consider how many *kanji* they have to learn in order to reach the advanced level. However, we cannot assign too many *kanji* in these courses for various reasons. (The biggest reason is that the most students want to learn only the first (and second) year Japanese course(s), so that the Japanese curriculum is focussed on their needs, but not on those who want to study more than elementary Japanese.) Therefore, in order for students to attain the advanced level of Japanese, they are obliged to learn a great number of *kanji* in their third and fourth year Japanese courses and beyond. For example, when I was teaching at Monterey Institute of International Studies in California, I had to assign a 50 to 100 *kanji* vocabulary quiz every week for the third and fourth year reading courses. Even so, most students couldn't attain the level of average Japanese junior high school students when they officially finished their fourth year Japanese courses.

At present, there are many students who have attained the intermediate level. They

are motivated and can study various things by themselves at their own pace. To them, good computer programs would be really helpful and useful. They would learn *kanji* more efficiently and with less aggravation with good computer programs.

I would like to suggest some *kanji* computer exercises. The exercises would be for students who have learned basic *kanji* writing, and want to be able to read Japanese books/newspapers/journals, etc., for adults.

- (1) To fill in or choose a *kanji* in a blank which is situated in every 10 to 15 characters in a passage. Since the *kanji* cannot be filled in without understanding the context, this is good for reading practice.
- (2) To choose the correct *kanji* or compound from a list of similar characters in the context of a sentence. This can be a practice of *kanji* writing as well, since students have to know the accurate figure of *kanji*.
- (3) Rapid reading practice: read a passage, and answer the questions. If you cannot answer, or your answers are not correct, return to the passage and check the *kanji* meaning which you don't know. The glossary is installed in a program, so that you can check unknown *kanji*. When you finish, you can check the time and accuracy of the answers.
- (4) *Kanji* reading practice: the program asks the student to read *kanji* which are important to grasp the whole content. It would be quicker and more interesting if we could use a voice recognition system instead of the student typing in the correct reading.
- (5) Specialized vocabulary learning: install a dictionary for a specialized field such as business, press, art and culture, etc. Start with basic vocabulary practice, and proceed to reading articles in the specialized area.

The above exercises can be done without a computer. However, the unique thing with a computer is that you can get a response immediately, and you can work with your own pace. It is not easy to make computer programs which are interesting, useful and within the limits of personal computer technology. However, I wish that many programs for intermediate and advanced students would come soon.

Appendix

At the 2nd International Conference on Cross-Cultural Communication, I discussed the availability of Japanese software for US computers, as well as the topics of the paper above. The content of the discussion was that there is little cross-cultural communication

between the US and Japan in the area of computer software.

Here I would like to list some software and word processing programs for IBM compatible PC's for interested people. This is a result of my research on computer applications in Japanese language with Prof. Tomizuka at the University of Arizona. (The project is funded by the Defense Language Institute.)

Since my research has been done during the summer of 1988, I hope that new programs, and sophisticated and affordable word processing programs for IBM compatible PC's have appeared on the market since that time.

COMPUTER PRODUCTS FOR JAPANESE (FOR IBM)
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1. Information Technology Laboratory, Inc.
280 Park Avenue
New York, NY 10017 (212) 557-0177
EW+ Japanese Word Processing Program
2. Icom's Inc.
948-1 Ichimiyake, Yasu-cho, Yasu-gun,
Shiga, Japan 0775-86-1986
Koga Ninja Japanese Word Processing Program
Editor, Other utilities
3. Online Computer Library Center, Inc. (OCLC)
6565 Frantz Road
Dublin, Ohio (614) 764-6000
CIK 350 Japanese, Chinese and Korean Word Processing Program
4. The Research Libraries Group
Stanford, CA 94305 (415) 327-9200
Japanese Word Processing Program (in progress)
5. Yamazaki Intercom Corporation (by University of Illinois group)
42-403 Shimizugaoka, Yatomicho, Mizuho, Nagoya,
Aichi 467, Japan

Japanese Word Processing Program
Hiragana/Katakana Software

6. Language Learning Laboratory
G-70 Foreign Language Building
University of Illinois at Urbana-Champaign
Urbana, IL 61801

Japanese Verb Conjugation

7. Hattori Seiko Corp. (Japan)

Let's Learn Nihongo

8. JHL Research Inc.
2552 W Woodland Dr.
Anaheim, CA 92801 (714) 827 7420

Japanese Font

Notes

1. For this section, I thank Mr. Toshiyuki Yamamoto who is teaching the second year Japanese course, and the second year students who cooperated with my survey.
2. At Michigan State University, third year Japanese and higher courses are not offered at present. Since the Japanese word processing program requires a basic knowledge of Japanese, we do not recommend it to the first year Japanese students.
3. Depending on a purpose of composition, a number of *kanji*, useful expressions, etc. can be required, however, it is not the case in this composition assignment. There are advantages as well as disadvantages in requiring them.
4. It is difficult to define the levels of intermediate and advanced. I will use the term intermediate for the level who learned basic grammar and acquired about 1,000 basic *kanji* and their compounds.

References

Oikawa, Akifumi, *et al.*

1988 *Pasokon Ni Yoru Gaikokujin No Tame No Nihongo Kyooiku Shien Shisutemu No Kaitaku*, Kokuritsu Kyooiku Kenkyuusho (National Institute of Education).

Otsubo, Kazuo

1988 "Nihongo Kyooiku Ni Okeru Paasonaru Kon'puutaa No Riyoo No Zittai To Kanoosei" in Oikawa, *et al.*