

Survey on the use of computers and the Internet in Japanese classes in Northern California

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Introduction

Following the advancement of computer technologies in the past decade, the Internet has become a part of our lives. On a daily basis, we use the Internet for a variety of purposes, such as looking for information, communicating with others, and publishing our own materials. Many scholars have pointed out the great possibility of the Internet as an educational tool in the foreign language (FL) classroom (Armstrong & Yetter-Vassot, 1994; Kost, 1999).

To help Japanese teachers take advantage of this new tool, we have done a fair number of presentations at various conferences on the use of the Internet in Japanese classes. Sometimes, however, we were left with questions as to how useful they were to the audience. We have a feeling that overall it is getting easier to do Japanese on the computer and more people are utilizing the Internet for classroom teaching. Nevertheless, little research has been done in the US on the use of computers in Japanese language education.

It is important to understand the current situations so that we can support Japanese teachers by providing what they need to improve their teaching practice. Therefore, we conducted a preliminary survey study in Northern California to investigate the following three areas: 1) Teachers' environments for computing and Japanese capability, including technical support, 2) availability of computers at schools for class use, and 3) recommended sites and technology-related projects completed in class.

Background of the Study

Participants

As participants of this pilot study, we chose Japanese teachers in Northern California. The choice of this research site is partially due to the fact that the area hosts the Silicon Valley where cutting edge technology exists for Internet technologies. We supposed it may reflect on the field of teaching Japanese as well. Our main sample was taken from two area organizations, Northern California Japanese Teachers Association (NCJTA) and California Association of

Japanese Language Teachers (CAJLT) Northern chapter. NCJTA mainly consists of university-level instructors and often natives of Japan, whereas the main members of CAJLT Northern chapter are secondary-level teachers and often non-native speakers of Japanese. The membership lists from the two organizations were obtained in October 2001. In addition, faculty members and graduate students who are teaching Japanese at University of California Berkeley were also invited to the present study. At the end, the total of 178 teachers participated in this study.

Procedures

A one-page survey in English was developed by the first and third authors. The survey done by Mr. Makoto Netsu of then Japan Cultural Centre, Sydney - The Japan Foundation in 1999¹ was referred and a few options for projects were added. The survey is in Appendix A.

The survey was sent out to 178 teachers via US mail in December 2001, and recipients were asked to mail it back in January 2002. The use of US mail and avoidance of the Internet was intentional. We felt that asking and taking the survey via the Internet would limit the responses we received to those who are already comfortable with the Internet.

After the surveys were returned to the first author, he divided the answers into three different categories in accordance with the teacher's institution: elementary school, middle/high school and post-secondary school. There are two teachers who teach at both a middle school and post-secondary institution, so we counted them twice. For further analysis, we first established hypotheses based on our personal experiences and communications with teachers through electronic mailing lists, email correspondence, and conference presentation reaction. Then, we compared our hypotheses to the results of the survey. The following are our original predictions.

1. Operating system
Windows operating systems are used most commonly (98 and 2000) and then Mac Os 9.x would come next.
2. Exclusive use
20-30% have a computer they can use exclusively.
3. Japanese capability in word processing, email and web browsing
More than half of the teachers can do word processing, email and web browsing in Japanese.
4. Trouble-shooting/Technical support
Teachers are left with nobody to ask or must depend on informal help from friends and family.
5. Type of connection to the Internet
Most teachers access the Internet from home with a modem connection.
6. Availability of facilities for class use
Less than half of the people say they have facilities at school to use. Of that number, most people say they don't have enough computers for all students.
7. Types of projects conducted in class
Some tried reading activities on the web or email exchange.

¹ Mr. Netsu's report is available at <http://homepage1.nifty.com/netsuma/i-survey/index.html>

Results and Discussion

In what follows, we briefly present and discuss the results of this pilot survey by comparing them to our original hypotheses. In addition, we will address issues that emerge from our analysis.

Responses and Institutional Level (Q1)

Out of 178 Japanese educators in Northern California, we received 42 responses (23.6% response rate). However, two responses were invalid because they did not answer some of the questions appropriately. Therefore, we dropped them and used 40 responses as the data for analysis. Out of 40 teachers who responded, six teach at elementary schools, 21 at middle/high schools and 15 at post-secondary schools. As mentioned earlier, however, two teachers stated that they teach at both middle and post-secondary schools. In the analysis, they were counted twice. Thus, results shown below are based on 42 answers.

Operating system (Q2)

As can be seen in Figure 1, both Windows and Macintosh are widely used, although we assumed that Windows, particularly 98 and 2000, is used most commonly among teachers we surveyed (Hypothesis 1).

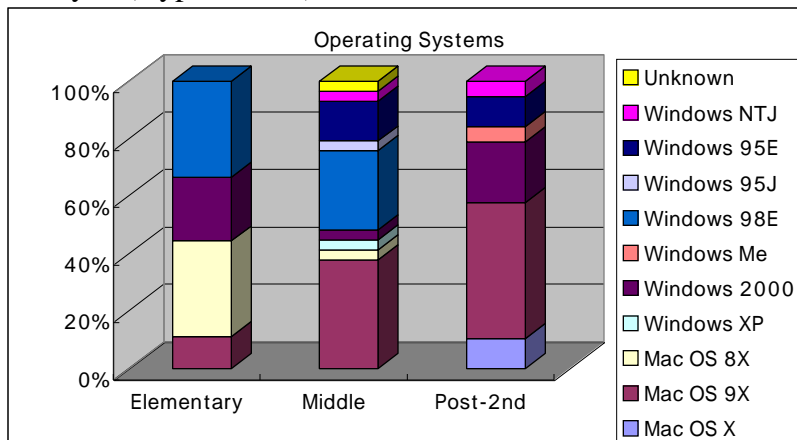


Figure 1.
Distribution of operating systems used.

This result suggests that Macintosh is still strong in Japanese language education. It corresponds to the report that Apple's market share in education is very strong (30% market share estimated in the year 2001). The popularity of Macintosh among Japanese teachers may be attributed to two facts: availability of Japanese language support with the Japanese Language Kit (JLK) since the early stage and the ease of using JLK. As far as Japanese capability is concerned, Apple's JLK requires less effort (i.e., supports third party products, easy to set up, does not require high-maintenance), whereas options available to Windows users, including Kanji kit, Twin Bridge, NJ Star, and Global IME, can be more troublesome (e.g., incompatible to one another and/or often do not support third party products). Nevertheless, both Microsoft and Apple now offer Japanese capability with their OS free of charge. Since Microsoft's Windows

2000 and XP support Japanese extensively, this 40-50% Macintosh market share in Japanese language education may change in the future.

All in all, our result implies that many of the Japanese teachers currently use both Windows and Macintosh operating systems. This result suggests that applications, software, and/or materials need to be cross-platform to ease the implementation of computer-enhanced projects in the Japanese classroom.

Exclusive use (Q3)

Figure 2 shows that almost 95% of the teachers have a computer for their exclusive use.

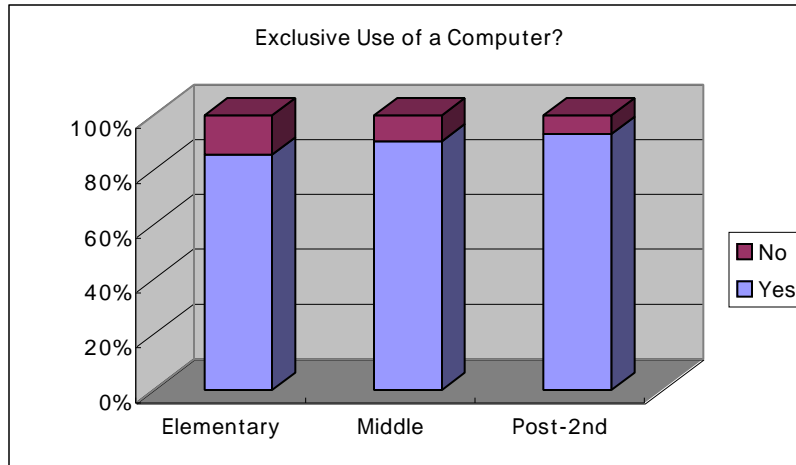


Figure 2.

Percentage of teachers who have access to a computer for their exclusive use.

Again, our prediction turned out to be incorrect. The high availability of computers for exclusive use may result in the active use of the Internet found in this study. To our surprise, many participants mentioned a variety of Web sites in their responses to Q12 and Q13 (see Tables 1 and 2). A list of Web sites on the survey implies that overall teachers seem to be using the Internet and computer-enhanced projects not only for their preparation and personal communication, but also for actual teaching. Accessing Web resources for teaching might become much easier possibly because the teachers surveyed have their own computers. Another possible reason for the high availability of computers for exclusive use and active use of the Internet is that the participants of our study are in Northern California, where Silicon Valley exists with cutting edge technology. We can assume that teachers are more exposed to a variety of computer technologies than Japanese teachers in other areas in the U.S.

Table 1.
*Web sites recommended to colleagues for materials.*²

Institutional Level	URLs
Elementary school	NihongoWeb http://www.nihongoweb.com/ Japanese Old Tales http://www.dl.ulis.ac.jp/oldtales/
Middle/High school	Japan Information Network http://www.jinjapan.org/ Japan Information Network: Atlas http://www.jinjapan.org/atlas/ (Tokyo Metropolitan map: could not verify as of April 16, 2002) http://www.jwindow.net/JMAP/htmls/Jmap_tokyo_metropolis.html Keiko Schneider's Bookmarks http://www.sabotenweb.com/bookmarks/ TJF Photo Data Bank http://databank.tjf.or.jp/intro_e.html The Internet Public Library http://www.ipl.org/ Rikai.com http://www.rikai.com/ Mrs. Martin's page http://www.geocities.com/simmons_michelle/ Kids web Japan http://jin.jcic.or.jp/kidsweb/
Postsecondary	Asahi Newspaper http://www.asahi.com/ NihongoWeb http://www.nihongoweb.com/ Yahoo Japan http://yahoo.co.jp/ Larry Stockton: Links to Japan http://ww2.lafayette.edu/~stocktoj/home/japanl.html Larry Stockton :Language & Education Links http://ww2.Lafayette.edu/~stocktoj/home/japan_lang.htm

² Unless otherwise noted, the web addresses listed in this paper were accessible as of April 22, 2002. However, due to the nature of the Internet, there may be sites that are no longer available after the publication of this paper.

Table 2.
Web sites recommended to students for self-study.

Institutional Level	URLs
Elementary school	Asahi Newspaper http://www.asahi.com/
Middle/High school	The Japan Forum http://www.tjf.or.jp/eng/indexe/indexe.htm Kids web Japan http://jin.jcic.or.jp/kidsweb/ http://www.jinjapan.org/kidsweb/ Rikai.com http://www.rikai.com/ Keiko Schneider's Bookmarks http://www.sabotenweb.com/bookmarks/ Mrs. Martin's page http://www.geocities.com/simmons_michelle/ Shodouka http://web.shodouka.com/ Reading Tutor http://language.tiu.ac.jp/
Postsecondary	Asahi Newspaper http://www.asahi.com/ Genki Online http://genki-online.com/ JIN City http://www.jin.ne.jp/ Jim Breen's WWWJDIC Server http://www.csse.monash.edu.au/cgi-bin/cgiwrap/jwb/wwwjdic Larry Stockton: Links to Japan http://ww2.lafayette.edu/~stocktoj/home/japanl.html Larry Stockton :Language & Education Links http://ww2.Lafayette.edu/~stocktoj/home/japan_lang.htm

Word processing, e-mail, and web browsing (Q4, Q5, and Q6)

We predicted that more than half of the teachers can do word processing, e-mail, and web browsing in Japanese (Hypothesis 3). As discussed above, many of the Japanese teachers in our study display rather active use of computers, and our third hypothesis seems to be confirmed. Figures 3, 4, and 5 show the high availability of Japanese-capable word processing, e-mail, and web browsing among the participating teachers.

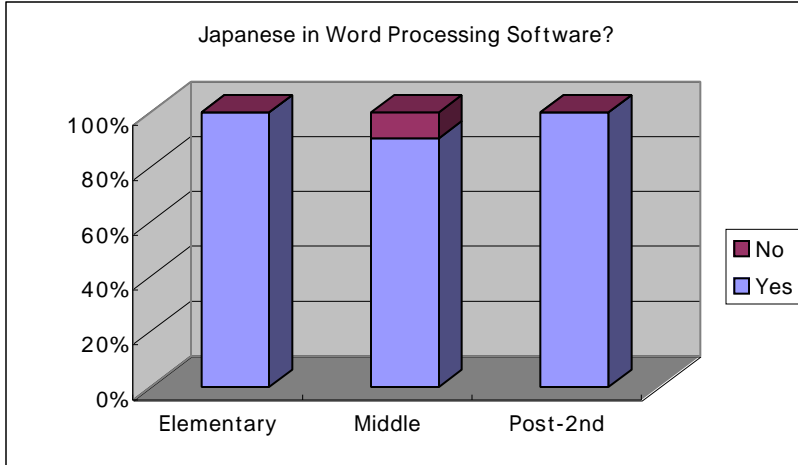


Figure 3.
Availability of word processing in Japanese.

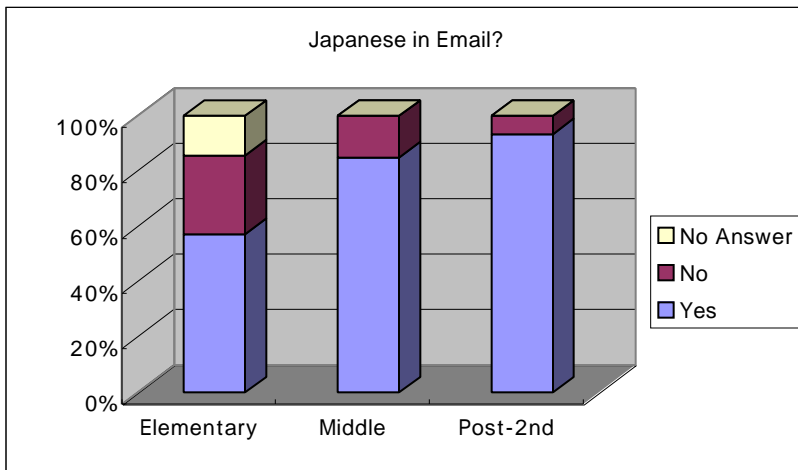


Figure 4.
Availability of e-mail in Japanese.

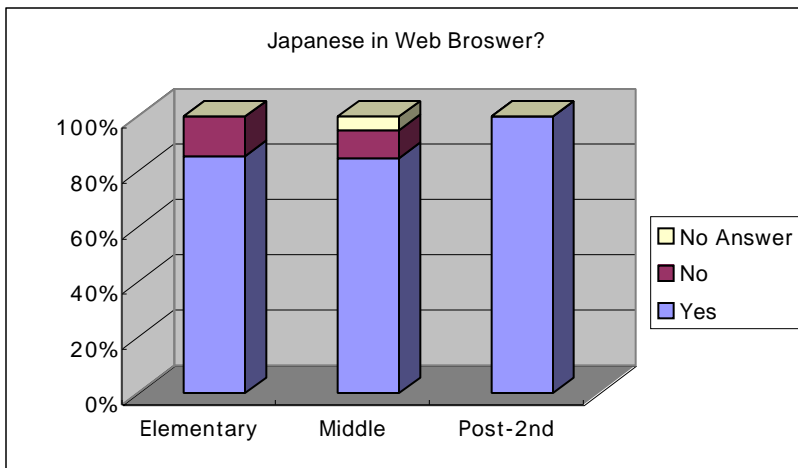


Figure 5.
Availability of web browsing in Japanese.

Although it appears that Japanese-capable computing is now available to most Japanese teachers, there still seem to be issues that need to be addressed regarding Japanese capability, particularly in pre-college settings. Small as the number is, some participants answered that they cannot use Japanese in word processing, e-mail, and/or web browsing. Inability to word process in Japanese is the most problematic area, because it means that they are hand writing everything when it comes to Japanese, despite the fact that current computer technology lets teachers edit and modify much more easily compared to writing by hand.

However, the majority of the participants report that they can use Japanese in at least one of those most commonly used applications (i.e., word processing, e-mail, and Web browsers). This result suggests that the urge of addressing Japanese capability issues has calmed down. As far as teaching is concerned, it seems that the central issue is now shifting from technical details to the educational value of using computers. Yet, the experiences of one of the authors (Schneider) suggest that teachers still need to know about Japanese capability issues so that their students' home computer (or lab computers) can be Japanese capable.

Technical support (Q7)

Previous studies show that teachers' lack of experience in computers hinder second and foreign language teachers from using computers in their practice (Lam, 2000). Consequently, technical support becomes central to facilitating the implementation of computer use in language classrooms. In our survey, the participants most frequently listed family, friends, and colleagues at work as possible support sources for trouble-shooting. This matches our original hypothesis (Hypothesis 4) that the teachers are left with nobody to ask or must depend on informal help, as shown in Figure 6.

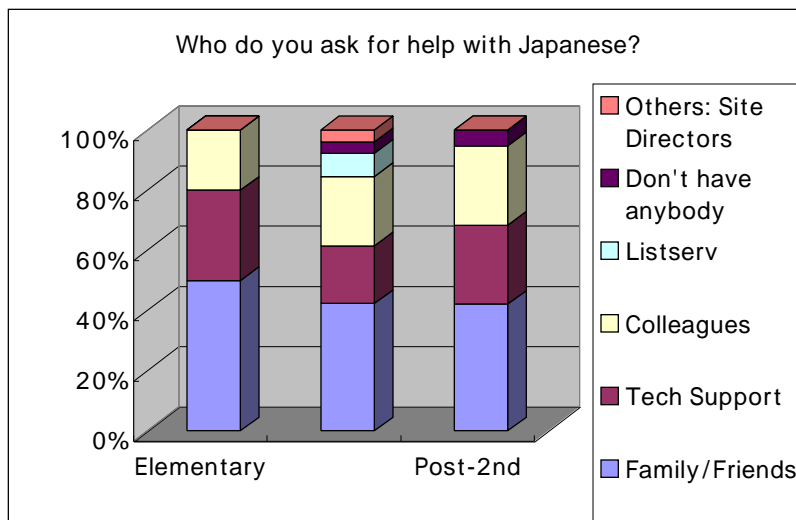


Figure 6.
Type of technical support available to Japanese teachers.

Since few technical support personnel at schools can read Japanese, and multilingual computing requires vast knowledge and specialization, it is very hard for them to fully support Japanese educators. Lack of support from technical specialists at school points to the necessity of building a community where language educators and support personnel with multilingual

computing expertise guide and support each other. Without this kind of community, Japanese teachers may not want to use technology even if it is there for them to utilize. Although the numbers of such support communities are increasing by electronic mailing lists (e.g., senseiOnline³) and Web sites (e.g., Nihongo Web⁴), it is likely that many Japanese teachers are not aware of the existence of such resources. Therefore, to facilitate the use of computers in Japanese language education, it is essential to inform Japanese teachers of such online communities and to encourage them to participate in them.

Connecting to the Internet (Q8 and Q9)

As we assumed (Hypothesis 5), about half of the teachers say that they connect most often from home, and half of them say that they connect via modem. Figures 7 and 8 summarize the results.

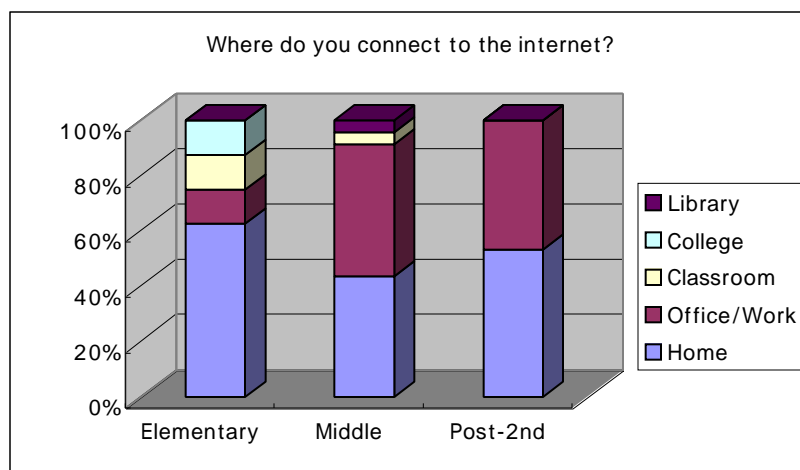


Figure 7.

Places where teachers connect to the Internet.

It may not be the case for instruction computers, but this finding suggests that we still cannot assume that everybody has a broad bandwidth at home (even in Northern California), such as cable connection or DSL. Thus, this factor needs to be taken into consideration when it comes to delivery of instructional materials. As we are all aware, using a phone line and modem has a speed limit. Therefore, if Japanese teachers still rely on phone lines, we should take caution when distributing large files such as audio and video. The possibility of voice communication with video image on the Internet from home exists, but it does not seem to be always practical at this stage.

³ SenseiOnline is managed by the third author. Information about senseiOnline can be obtained at <http://www.sabotenweb.com/bookmarks/about/senseiOnline.html>

⁴ Nihongo Web is created and maintained by the first author. The URL of Nihongo Web is <http://www.nihongoweb.com>

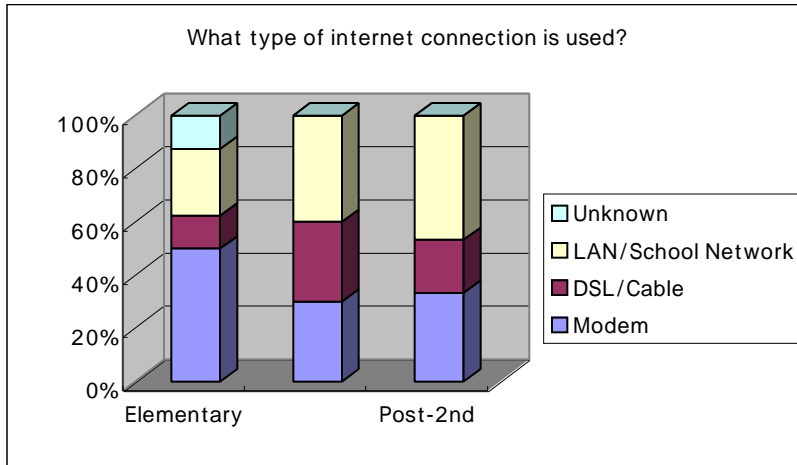


Figure 8.
Type of Internet connection.

Computer facilities at school (Q10 and Q11)

As to computer facilities at school, most of the teachers in Northern California stated that they have some sort of computer facilities where they can teach students Japanese (see Figure 9). This result confirms our prediction that institutions where the participants teach have computer facilities (Hypothesis 6). This result indicates that at this stage, it is helpful to build online resources for instructional purposes for Japanese language learning.

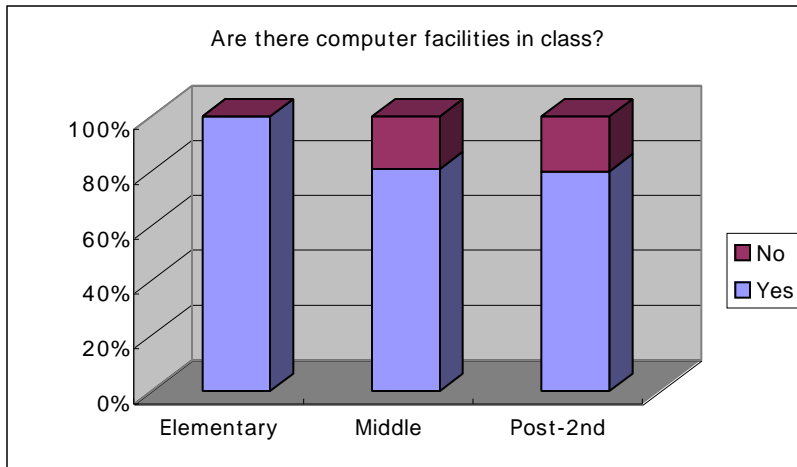


Figure 9.
Availability of computer facilities at school.

Moreover, we predicted that there are not enough computers for all students (Hypothesis 6). This also proves to be true, as presented in Figure 10. We found that pre-college level institutions have less access to computer labs with enough computers for all students. This result brings up the issue of developing more materials and being creative in ideas so that small groups of students sharing a computer can be successful in activities. This situation may seem discouraging at first, but we can take advantage of it in order to promote cooperative learning. In other words, creative and careful planning of tasks for group work allows students to work with

peers collaboratively, which possibly facilitates scaffolding among peers that is claimed to have a positive effect on learning.

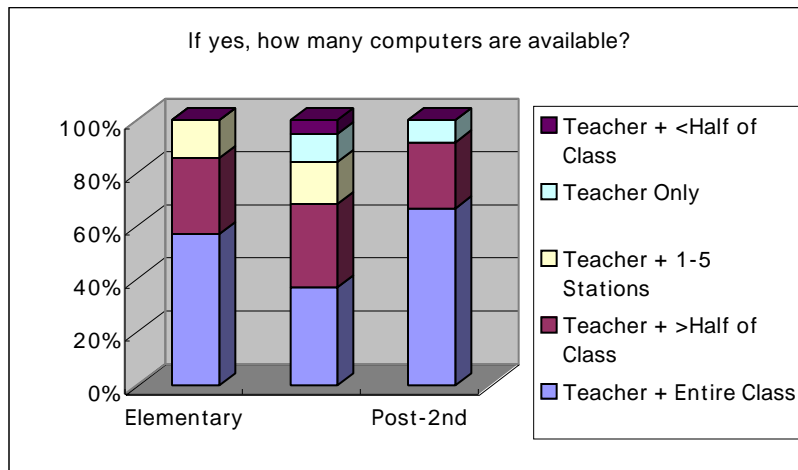


Figure 10.

Number of computers available at school.

Projects completed in class (Q14)

Lastly, we present the kinds of computer-enhanced projects that were completed in Japanese class. Table 3 shows the list of URLs provided by the participants indicates that the Web is actively used to some extent.

As for computer-enhanced projects that were actually done, we assumed that some teachers used e-mail exchange projects and reading activities on the Web (Hypothesis 7). We are correct in terms of e-mail exchange projects: a total of 18 teachers reported that they involved their students in such a project. Another frequently mentioned project is a research project with Web page information. From the list of the URLs provided by the participants in response to Q14, we speculate that most of research projects are possibly done in English. Reading Web pages with helper tools (such as Reading Tutor⁵) seems to be lower in frequency than we expected. The Web offers a variety of authentic, current resources (Kost, 1999) as well as such tools as Reading Tutor that help students read texts. However, as Harrison (1998) claims, it seems that “integrating authentic materials into the classroom presents new challenges for teachers” (p. 446). To make the most use of these resources, therefore, teachers may need training in how to best utilize authentic materials.

⁵ Reading Tutor is developed by Professor Yoshiko Kawamura of Tokyo International University.

Table 3.
Web sites used in class.

Institutional Level	URLs used in Class
Elementary school	ePals http://www.epals.com/index_jp.html
Middle/High school	Thurgood Marshall Academic High School: Japanese Reviewing site http://come.to/japanesewebsite The Japan Forum http://www.tjf.or.jp/eng/indexe/indexe.htm Google http://www.google.com/ Rikai.com http://www.rikai.com/ Mrs. Martin's page http://www.geocities.com/simmons_michelle/ Shodouka http://web.shodouka.com/
Postsecondary school	WebCT (corporate site for information) http://www.webct.com/ Yahoo Japan http://yahoo.co.jp/ Lipton sensei's Japanese class page http://www.Stanford.edu/class/japanese7b/ (8b, 9b etc)

When we closely examined differences in projects across institutions, we found that middle and high schools enjoy various projects. Surprisingly, quite a few middle and high school teachers responded that they had done video editing projects. On the other hand, postsecondary schools seem to transfer traditional assignments in electronic form. There also seems to be pressure to use courseware (e.g., WebCT) to offer some or all materials online and/or conduct hybrid or online delivery class in college level. In this regard, middle and high school teachers may have more room to be creative in using computers for Japanese language instruction. We assume that possible reasons why middle and high schools enjoy so many computer-enhanced projects are that students are more apt to use technology, and that there is more freedom in curriculum than university level.

In addition to computer-enhanced projects, the list of Web sites given by the teachers indicates that some teachers set up their own classroom homepage and use it in class. For example, Ms. Michelle Simmons Martin of Pleasant Valley High School has her page which provides students with links to Japanese-related resources on the Web. Ms. Hisayo Okano Lipton of Stanford University maintains a very extensive Web site for Japanese courses that includes audio components for listening exercises and PowerPoint slides on Japanese grammar. These are also good examples of how technology is utilized for Japanese language instruction.

Conclusion

The present pilot study investigated three areas regarding the use of the Internet and computers for Japanese language instruction: the teacher's environment for computing in Japanese, availability of computers at school for instructional use, and recommended sites and technology-related projects completed in class. As discussed above, the results indicate that Japanese-capable computers have become more accessible to teachers than before. The teachers have a computer for their exclusive use and do word processing, e-mail, and/or web browsing in Japanese. Schools have computer facilities where they can take their students although the number of the computers may not be sufficient for all students.

Accordingly, we found that Japanese teachers participating in this study utilize the Internet and computers to some extent in their instruction. Nevertheless, how the Internet is used seems to be still limited (e.g., Japanese-related research projects done possibly in English). Thus, we still need to provide Japanese teachers with information and training on more effective ways to use the Internet for Japanese language learning. For example, as scholars claim (Gonglewski, 1999; Walz, 1998), we believe that the Internet can be a very effective tool to achieve the five goal areas (i.e., Communication, Cultures, Connections, Comparison, and Community) described in *the Standards for Foreign Language Learning: Preparing for the 21st Century* (National Standards in Foreign Language Education Project, 1996) (Standards). The Internet enables learners to explore other languages and cultures and compare them with his/her own language and culture. Furthermore, learners can participate in the community where life-long learning can be realized. Considering the current nation-wide movement toward aligning the curriculum to the Standards, Japanese teachers should be encouraged to explore possibilities of the Internet in light of the Standards.

Finally, it should be noted that this is a preliminary study which involved Japanese teachers from Northern California only. While we believe that this pilot study helped us to grasp the current situations of computing in Japanese language instruction, a larger study should be conducted to obtain a more accurate picture of the phenomenon. Thus, we plan to expand our survey study by conducting a nation-wide survey in the U.S. in spring 2002.

References

- Armstrong, K. M., & Yetter-Vassot, C. (1994). Transforming teaching through technology. *Foreign Language Annals*, 27, 475-486.
- Gonglewski, M. R. (1999). Linking the Internet to the national standards for foreign language learning. *Foreign Language Annals*, 32, 348-362.
- Harrison, R. (1998). The Evolution of networked computing in the teaching of Japanese as a foreign language. *Computer Assisted Language Learning*, 11, 437-452.
- Kost, C. R. (1999). Enhancing communicative language skills through effective use of the World Wide Web in the foreign language classroom. *Foreign Language Annals*, 32, 309-319.

National Standards in Foreign Language Education Project. (1996). *Standards for foreign language learning: Preparing for the 21st century*. Lawrence, KS: Allen Press.

Lam, Y. (2000). Technophilia vs. technophobia: A preliminary look at why second-language teachers do or do not use technology in their classrooms. *Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 56, 389-420.

Walz, J. (1998). Meeting standards for foreign language learning with World Wide Web activities. *Foreign Language Annals*, 31, 103-114.

Appendix A

Survey on the use of computer and the Internet in Japanese classes

1. What levels do you teach? (Please check all that apply.)

- Elementary/Immersion
 Middle/High School
 post secondary
 Gov't/Adult Ed
 Saturday School (Hoshuko)
 Other (Please specify)

2. Please check operating system(s) of your computer(s) you use. (Please check all that apply.)

- Windows 95(E)
 Windows 98 (E)
 Windows Me (E)
 Windows NT (E)
 Windows 2000
 Mac OS 9.x
 Mac OS 8.x
 Mac OSX
 Unknown
 Japanese System (Please specify)
 Other (Please specify)

3. Do you have a computer you can use exclusively without sharing with someone?
 Yes
 No

4. Can you use Japanese in word processor software?
 Yes
 No

5. Can you use Japanese in email?
 Yes
 No

6. Can you use Japanese in web browser?
 Yes
 No

7. If you have problems with Japanese computing, who do you ask for help? (Please check all that apply.)

- Family/friends
 Colleagues at work
 Tech support at work
 Listserv
 I don't have anybody to ask.
 Other (Please specify)

8. Where do you most often connect to the Internet? (Please choose only one.)

- Office/Work
 Home
 Lab
 Library
 Other (Please specify)

9. What is the type of connection at the location on #8? (Please choose only one.)

- Modem
 DSL/Cable
 LAN/School network
 Unknown
 Other (Please specify.)

10. Do you have computer facilities you can take your students in class?
 Yes
 No

11. If yes to #10, how many computers are available? (Please check all that apply.)

- Teacher's station only
 Teacher's and 1-5 stations for students
 Teacher's and up to half the number of your class
 Teacher's and half to almost all of your class
 Teacher's and all of your class

12 Please list web sites that you recommend to your fellow teachers for materials (If any)

13 Please list web sites that you recommend to your students for self-study (If any)

14. Please list web sites you use in class. (If any)

15 Please check/list computer-enhanced projects you have done. (If any)

- slide presentation
 class newspaper
 email exchange
 reading Web page with helper tools
 Web page presentation
 Research project with web page information
 Other (Please specify.)

Thank you very much for your cooperation. (Omoto and Schneider)