

CALL and JFL teacher education in Japan: A course description

Bernard Susser

Doshisha Women's College, JAPAN

bsusser@dwc.doshisha.ac.jp

This paper explores the integration of ICT into Japanese as a Foreign Language (JFL) teacher education through a description of a CALL graduate course. It begins with some background on JFL CALL, the course, and the students. The main section describes the course activities for improving the students' computer literacy; demonstrating techniques for using standard application software for teaching purposes; introducing the range of JFL courseware and Internet sites; providing practice in evaluating these teaching materials; and demonstrating basic techniques of online teaching. The conclusion covers the merits of this approach to CALL teacher education. Most of the activities described could be adapted for use in any CALL teacher education course.

Japanese is taught as a foreign language (JFL) widely throughout the world, with over 2.3 million learners and 33,000 teachers in more than 120 countries and regions as of 2003 (Japan Foundation, 2004). Increasingly, the education these teachers are receiving includes a CALL component; in the USA, for example, accreditation agencies "argue that teacher education programs should prepare candidates to integrate information technology into their instruction" (Kamhi-Stein, 2000, p. 424; see also Duhane, 2001; Hegelheimer, et al., 2004, p. 433; Susser, 1998a; Wildner, 1999) and JFL teachers share this view (e.g., Omoto, 2004).¹ This paper explores the integration of information and communication technologies (ICT) into JFL teacher education through a description of a graduate course in CALL taught at a university in Japan. It begins with a brief discussion of what CALL teacher education should consist of; then introduces JFL CALL, the course, and the students. The main section describes the activities that make up the course; the conclusion covers the merits of this approach for CALL teacher education in this context. The focus here is on JFL but most of the ideas and activities presented below could be used in foreign language teacher education generally.

CALL Teacher Education

Standards such as ISTE's *National Educational Technology Standards for Teachers* (2004) stipulate what all teachers should know about technology; concerning CALL, several writers have suggested guidelines for what a CALL course for language teachers should

consist of. I have taken samples from the general CAI literature (e.g., Bates & Poole, 2003; Hargrave & Hsu, 2000, p. 306), the CALL literature (e.g., Chapelle & Hegelheimer, 2004; Hatasa, 1999; Hubbard, 2004a; Johnson, 1999; Nozawa, 1997; Wildner, 1999, p. 238), and CALL for JSL (e.g., Hatasa, 2002; Schneider, 2003). These writers recommend that a CALL teacher education course should cover: (1) CALL theory and research; (2) programming and materials preparation; (3) software; (4) hardware; (5) evaluation of learning materials; (6) learner training; and (7) preparation for online teaching.

(1) Theory includes both broad issues, such as the pros and cons of computer-assisted instruction (see Susser, 1998a; 2002), and more specific issues such as the nature of CALL tasks for promoting second language acquisition (see, e.g., Chapelle, 2001). Research includes a coverage of what has been done (as in Debski, 2003; Levy, 2000; 2002) as well as consideration of the "unanswered questions" (Hubbard, 2003). (2) Programming used to be the touchstone for defining a CALL practitioner (e.g., Levy, 1997b) but with today's technology, even teachers who do not know a high level programming language can "program" in Java or HTML so this issue is not as clear as it may have been. Further, teaching materials can be created without programming by using specialized applications (authorware) that produce quizzes, cloze exercises, etc. (3) Software includes standard applications such as word processors and spreadsheets, utilities such as drawing programs and gradebooks, programs and tools for computer-mediated communication (CMC), and specialized applications such as those for editing videos. (4) Hardware includes not only computers but digital cameras, scanners, and other peripherals. (5) The pedagogic evaluation of language-learning programs or Web sites is an essential part of teacher education (e.g., Susser, 2000, 2001, 2002; Susser & Robb, 2004). This area includes both exposing students to the wide range of CALL materials available in many formats, and introducing to them the key issues involved in evaluation from the perspective of all stakeholders. (6) The importance of teaching learners how to do CALL has been emphasized especially by Hubbard (2004b). Teachers also must understand CALL's relation to learning styles and strategies. (7) Preparation for online teaching will be an important aspect of teacher education in the future (e.g., Crichton & Childs, 2004; Palloff & Pratt, 2001); for example, Musumeci (2001) described how a blending learning approach improved courses in Spanish as a foreign language.

Background: JFL and ICT

JFL CALL software began to appear in the mid-1980s (Hatasa, 2003, p. 231); today, teachers and learners of Japanese can choose from a wide range of teaching materials on disk, CD-ROM, and the Web, and there is increasing use of "social computing spaces" (Harrison, 2004) such as bulletin boards and chat. Several outstanding Web sites serve as guides to these resources (described in Hatasa, 2003, pp. 239 ff.). Finally, well-known tools such as *Hot Potatoes*, concordancing programs, etc., now can accept Japanese input.

Teacher education for JFL is carried out widely in Japan at the undergraduate and graduate levels and there is increasing interest in CALL applications in these programs. The National Institute for Japanese Language is actively encouraging the use of CALL in JFL as an aspect of the Japanese government's e-Japan program (Kokuritsu Kokugo Kenkyusho, 2004; on the government's plan see IT Strategy Headquarters, 2001). CASTEL/J (Computer Assisted System for TEaching & Learning/Japanese) deserves special mention for its confer-

ences and distribution of materials for JFL CALL (see Kaiser, 1993). Most teacher education books about CALL in Japanese are for Japanese teachers of EFL (e.g., Machida, Yamamoto, Watanabe, & Yanagi, 2001) but contain much that would be useful to JFL teachers as well; fortunately, there are some books specifically for teachers of Japanese (e.g., Hatasa, 2002; Ikeda, 2003). In the area of online learning, a book published by The Society for Teaching Japanese as a Foreign Language discusses in detail how Japanese language teachers can be taught online (Nihongo Kyôiku Gakkai, 2004). Services like the Japanese Language Material Ring (<http://www.dartmouth.edu/~introjpn/webring.e.html>) provide much assistance to JFL teachers. Finally, CALL has a key role in standards for teacher education and professional development (e.g., National Working Group, 2000). In short, CALL is fully accepted for teaching Japanese as a foreign language, which in turn creates a demand for CALL methodologies in teacher education.

Course Overview

The course described in this paper, "Information Literacy for Research on Language and Culture," is a graduate course I have been teaching for several years in the Department of Japanese Language and Literature at a university in Japan. The description in the syllabus identifies it as a course on CALL for JFL, although students from the English Department who want to study EFL CALL are welcome. It is a year-long course that meets once a week for 90-minute sessions in the graduate school computer lab. The course is conducted in Japanese to accommodate those students whose English ability may not be sufficient to conduct discussions or do extensive reading in English; as noted below, this limits the assigned readings to works in Japanese.

The literature provides many suggestions for the content of CALL teacher education. Considering the place of this course in the curriculum and the type of students who register for it, I emphasize four topics: basic computer literacy, tutor and tool software applications, evaluation of learning materials, and online instruction. Each week there are three main in-class activities: (1) discussion of the assigned reading; (2) an oral report by one student on a CALL-related reading or Web site; and (3) computer exercises and projects. In addition to the weekly activities there is a term paper each semester: in the spring, an annotated bibliography of published research on a topic of interest to the student; and in the fall semester, a short research paper.

Student Profile

Each year about five students register for this course. Some have just completed their undergraduate studies, usually in Japanese language and literature; most in this category have had courses on JFL teaching methodology. Many of these students hope to become teachers of Japanese to non-Japanese speakers; others want to be teachers of Japanese to native speakers in Japanese secondary schools, and a few are EFL majors. A second category of students consists of those who have returned to school to get an MA after working for a few years, after getting their undergraduate degree in a variety of majors. Many of these students have been working as JFL teachers at language schools in Japan, and a few have taught Japanese overseas. A third category includes international students, mostly from

China, Korea, and other Asian countries, who are or hope to become teachers of Japanese in their home countries.

ICT courses are increasingly common in Japanese high schools and universities so all students have had some exposure to computing.² Recent graduates have studied with educational technology such as computerized language labs and have used the Internet for various purposes in their undergraduate courses, and a few may have studied for the TOEFL or TOEIC tests with CD-ROM or online courses, but on the whole students have not experienced CALL as a significant part of their own foreign language learning, although this certainly will change in the next few years. The students in this course generally enter with good word processing and Internet browsing skills, and many are familiar with spreadsheet and presentation software. Despite their general ICT literacy, there is often a wide range of experience among even five students, and there are surprising gaps in their computing abilities. This problem is handled in several ways. First, the initial set of exercises teaches some essential functions and skills that they may not know, and shows them that standard applications are filled with less-well-known features that teachers could make good use of. Next, half of class time is spent doing hands-on computer work so software functions can be taught as the need for them arises. Third, the students are good at sharing information and teaching each other. Further, students are encouraged to use the Internet as a source of information. Many guides to software use are available from the developers and from third parties. Also, the readings frequently contain technical terms that cannot be found in standard dictionaries so the students are directed to the excellent Japanese ICT dictionaries available on the Web such as the *Insider's Computer Dictionary* (<http://www.atmarkit.co.jp/icd/>) or *e-words* (<http://w-words.jp>).

Course Details

As mentioned above, the course consists of three kinds of in-class activities (discussion of the reading, oral reports, and computer activities and projects) and a term paper each semester.

Assigned Readings

The assigned readings are recent articles in Japanese on aspects of JFL CALL, taken from JFL teaching journals and the proceedings of the CASTEL/J conferences (Nakajima, 1999 [in English, see Nakajima, 2002]; Tohsaku, 2002). Topics include: the development of learning materials such as software or Web pages; case studies of the use of CALL materials in a variety of settings; CALL and learner strategies; and descriptions of how standard tools and applications, such as concordancing software, Internet search engines, or chat or MOO sites, could be used for teaching Japanese. Students are asked to think about how the computer is being used in each case and how well the author substantiates his/her argument; further, students must bring to class a question about the reading for the discussion. These readings introduce aspects of JFL that are new to most students; at the same time, the students can bring what they have been learning in other courses (and in some cases their experience as teachers) to bear on the issues raised in the readings. This combination of inexperience and expertise is illustrated by the questions they bring to class, which are

sometimes about technical matters mentioned in the readings (e.g., the names of programming languages), and sometimes penetrating critiques of the authors' arguments (e.g., are these conclusions really supported by the data?).

Oral Reports

The oral reports by students are useful because students have to search for suitable articles to report on; this is not easy because work on CALL in Japanese appears only sporadically in the standard journals, university in-house research bulletins, and on the Internet. One practice that seems to strengthen their motivation is my announcement at the beginning of the year that on the last day of class we will form an editorial committee to decide which if any of the articles reported on during the year should become an assigned reading for the following year. I save each week's presentation handout and in the last class bring the whole set and have the students vote on them. More than 20% of the present assigned reading list consists of articles that were originally found by students and presented as oral reports. Both the required readings and the individual student reports serve to introduce JFL CALL as an academic field, hopefully covering issues such as those raised in Levy's (2000) review of CALL research. Also important is the evaluation of the literature, given some recent reservations about its quality (e.g., Debski, 2003, p. 182; Hubbard, 2004b).

Term Papers

The annotated bibliography paper and the research paper give students a deeper understanding of the issues in a specific area of JFL CALL; topics chosen by students in the past few years include: teaching pronunciation, Internet resources for teaching *kanji* and *kana*, computational linguistics and literary analysis, email and language learning, machine translation, computers and reading instruction, etc. The biggest problem students have with these projects is that at first they do not have a good idea of what CALL is as a discipline and do not know what topics are appropriate. They gradually learn CALL's scope from the weekly assigned readings, the other students' oral reports, and looking at the tables of contents of the CASTEL/J proceedings, which show quite well the range of JFL CALL research and practice.

Computer Exercises and Projects

The exercises and projects are described in detail in this section. The first group addresses basic computer literacy issues such as the use of word processing software and Internet browsing. The remaining exercises take up tutor and tool software applications, evaluation of learning materials, and online instruction.

Computer Literacy

The overt teaching point of the first three exercises is to help students achieve a greater depth of computer literacy by introducing advanced features of the word processor and Internet browser. One aspect of this is to make explicit the similarities of operations across

applications. Uden, Alderson, and Tearne (2001) found that young learners did not think of Internet browsing in the same way as they thought of other computer applications so they did not use keyboard shortcuts, right mouse commands, etc. One good point of both the Mac and Windows operating systems is that they have encouraged a degree of standardized operations across applications, so it is important to teach this to students.

The first exercise is a cloze-style grammar exercise. Students are given a paragraph in which the particles *de* and *ni* have been replaced with blank lines and are asked to make a similar exercise. Most students know that *Aozora Bunko* (<http://www.aozora.gr.jp/>) is one of the best sources of copyright-free texts and they soon find a suitable text there. However, not everyone knows how to save an html file as a text file, how to make a folder to save it in, or how to remove automatically the hard spaces at the end of each line after importing the text file into *Word*. In short, we have problems with their knowledge of how to use the browser, the operating system, and the word processor. Many students have never used *Word*'s Find and Replace, and are surprised at how easily *de* and *ni* can be replaced with a blank line; I cannot recall ever meeting a student who knew about the advanced features of Find and Replace, which provide a means to eliminate hard spaces at the end of lines automatically (see Hatasa, 2002, pp. 15-17).

The second exercise shows how some of *Word*'s features can be used to prepare teaching materials. Students are given a handout on which text structure, discourse markers, etc., have been marked or annotated using features such as underline, bold, italics, outside border (box), colors, highlighting, line numbers, footnotes, comments, and graphics such as arrows. They also are given a reading (Iribe, 2003) that explains how some of these features can be used for instruction. Students quickly learn to use these features; the point is that we cannot assume that even students who are familiar with word processing know as much as they should to make full use of word processing's potential for materials preparation.³

The third exercise introduces some of the basics of Internet browsing: the advanced search function in Google, how to interpret a search result (<http://www.google.com/help/interpret.html>), the Internet Archive's Wayback Machine (<http://www.archive.org/>), and especially how to read URLs. For this latter we first try to decode a few URLs. Students go to the Japan Network Information Center (JPNIC) site, which gives clear explanations of the Domain Name System (<http://www.nic.ad.jp/ja/dom/system.html>) and the generic and country code top level domains (<http://www.nic.ad.jp/ja/dom/types.html>). Again, as with word processing, all students know some of this but most still could not read a URL with any accuracy, before this practice.

Tutor and Tool Software Applications

The exercises and projects in this section vary from year to year depending on student interest and availability. A good place to start when dealing with software is the issue of interface design and usability (see, e.g., Levy, 2002); Beller-Kenner (1999, pp. 382 ff.) has suggested an interesting exercise to practice this, which I have modified. First, students must try to identify as many international airport information symbols as they can (Oxford-Duden, 1981, pp. 405); takeoff, landing, waiting room, barbershop, restaurant, etc., pose no problems but usually they cannot decode the icons for first aid (the Caduceus), drug store

(mortar and pestle), and chapel (they did not see the cross as a religious symbol because none of the other symbols such as the menorah were familiar), etc. This makes the first point, that the interpretation of an icon does not always transfer across cultures, even in the supposedly "international" setting of an airport. The problem of icon meanings in software has been discussed by many writers, including Bourges-Waldegg & Scrivener (2000) and Uden and Dix (2000). Next, students try to guess the meanings of the software icons in Beller-Kenner (Figure 23-4, 1999, p. 383); as she points out, this is not easy to do. Finally, students use a screen capture software to make their own collection of clear and problematic icons from JFL CD-ROM software.

This last step introduces a new issue, how to find, download, and extract compressed utilities; this in turn leads to consideration of the risks involved in downloading applications, and the teacher's responsibility to do this legally. In Japan, Vector (<http://www.vector.co.jp/>) is a reliable source of useful utilities; the screen capture software we use is *ClipDesk*, a freeware (<http://www.vector.co.jp/magazine/softnews/020828/n0208282.html>) and the extracting freeware is *Lhaz* (<http://www.vector.co.jp/soft/win95/util/se107748.html>).

Another exercise that is popular with students is the introduction of concordancing and corpus analysis. The students have two assigned readings on this (Katô, H., 2000; Katô, Y., 1998), handouts listing sites about corpora and concordancing for English and Japanese, and sources of corpora both on the Internet and on disk or CD-ROM. We have been using a beta version of *Kuikku* (pronounced "KWIC"), a concordancing software for Japanese from Japan China Industrial Communications (<http://www.wordlab21.com/>). The point of this exercise is to show students how concordancing can be used to analyze language and to make exercises (see Sinclair, 2003 for examples). To illustrate, we do this problem from Tanomura (2003, p. 180). First, the students are asked to think of as many words (compounds) as they can in which the first character is *yū* (possession; being; containing); once this list is made, students must choose from it the "adjectival nouns" ("prenominal adjectives") that take the particles *na* or *no* and decide how the *na*-group differs from the *no*-group.

Students propose different explanations and then do a search using the concordancer for "*yū* *I [any one character] *na*" and then a similar search replacing *na* with *no*. The large number of examples in KWIC format helps the students to see that (according to Tanomura) words that take *na* such as *yūmei* (fame) generally imply a range from more to less, while words that take *no* such as *yūryō* (for a fee/charge) generally indicate a yes or no situation. The power of concordancing to challenge the native speaker's intuition is impressive to students.

Finally, one exercise takes up Asao's (2001) suggestion that interactive programs such as *Eliza* could be useful for language practice.⁴ Students read Den's (1997) paper on *Eliza* and in class look at Asao's page of links to interactive programs in Japanese and English (<http://www.hum.u-tokai.ac.jp/asao/etm/interactive.html>). They also visit metasites (e.g., *The Chatterbot Collection*, <http://www.geocities.com/brizglace/index.htm>) as well as individual programs such as the intriguing *Agent Ruby* (<http://www.agentruby.com/indexflash.html>). Here, students are asked to consider what features of interactive agents might be useful for CALL, and how a JFL teacher might make use of a Japanese agent such as *Kurumi-chan to-ku* (<http://www.sol.cs.ritsumei.ac.jp/~ikefuji/kurumiroom.html>) for teaching Japanese.

Evaluation

There is a major evaluation project each semester. In the first semester, each student must select a JFL Web site that she believes would be useful for students at our overseas sister schools who are preparing to join the exchange program held on our campus in the second semester. Students are given the characteristics of the exchange students, particularly their level of Japanese ability and the language skills they will need for the program; once the graduate students have made their selections, they send the URLs of the chosen sites to the exchange students before the end of the first semester, in the hope that they will make use of those sites to improve their Japanese ability before they arrive in Japan. This exercise exposes the graduate students, usually for the first time, to the vast number and variety of JFL sites on the Web. They first read an article introducing JFL and related Web pages (AJALT, 2001). They learn how to use Web sites such as Keiko Schneider's Bookmarks (<http://www.sabotenweb.com/bookmarks/>) that catalog these resources (listed in Hatasa, 2003, pp. 239 ff.) and begin to think about the issues involved in evaluating CALL Web sites (see Robb & Susser, 2000; Susser & Robb, 2004).

For the second semester evaluation project, students are given a list of CD-ROM programs and Web pages and asked to choose one and evaluate it; this list includes materials such as: *Manabiya* (Asada, 2002); *Takeshi's Diary* (Meguro, Yasui, Lee, & Luangmettakun, n.d.); *ROBO-SENSEI: Personal Japanese Tutor* (Nagata, 2004); and *Multimedia Materials for Japanese Language Learning for International Medical and Dental Students* (Yamashita, 2001). Students evaluate these using a checklist based on Garrido and Geissler (1997), and supplemented by items from the many other CALL checklists available (see Susser 2001, p. 264). This checklist covers areas such as content, navigation, interactivity, teacher and learner fit, and technical points. The students' evaluations are sent to the program's author in the hope that their comments will serve as feedback for new versions. (I am able to do this because I have met the authors at conferences and gotten their kind permission for this project.) When this works as intended, students are pleased to get a response to their evaluation from the developer; hopefully, this will motivate them to attend conferences and participate more in the JFL and CALL communities.

Online Instruction

Online CALL already is well-established and there is increasing awareness of the possibilities of using Course Management Systems (CMS) (or Learning Management Systems) to expand online language instruction even more (e.g., Godwin-Jones, 2003; White, 2003, pp. 214 ff.). This course is registered on *CyberVine*, our proprietary CMS, so that students can tour its features and practice posting messages to the discussion board. Further, students are asked to consider what an appropriate online assignment might be; after the class discusses the possibilities, each student is allowed to post an assignment through my instructor's account and these assignments are then examined by the other students. The purpose of this exercise is to get students thinking about online teaching issues, both structural (course design, use and evaluation of CMSs, intellectual property and copyright, workload management, etc.) and pedagogic (instructional style, learner preparation, class management, assessment, etc.) (Susser, 2005). Students also learn how the Web can provide practical support for their online teaching through repositories of reusable learning objects (RLOs) such as MERLOT (<http://www.merlot.org>) (see, e.g., McGreal, 2004;

McMartin, 2004).

Conclusion

This paper has concentrated on JFL CALL but contains two main points that apply to CALL teacher education generally. First, the previous literature suggests many areas that a CALL teacher education course might cover, including theory and research, programming, learner training, etc. Given that no one course could do justice to all aspects of CALL, each instructor must make hard decisions about what to cover and what to leave out. The course described here may serve as an example of a course whose contents were selected based on: (1) consideration of role of the course in the total curriculum; (2) appraisal of students' background and needs; and (3) recognition that there are aspects of CALL education that teachers value, such as a focus on pedagogy and an emphasis on practical skills for a variety of teaching situations (Kessler, in press). The focus on pedagogy is most clearly shown in the emphasis on evaluation of learning materials; practical skills are developed in the exercises and projects, which cover the advanced features of standard software applications and introduce specialized software such as applications for making exercises or building concordances.

The second point is simply that most of the projects and exercises described above can be adapted for use in any CALL teacher education course. The use of advanced functions of tool software, the evaluation of tutorial programs, and the techniques of online teaching all focus on pedagogy and emphasize skills; for this reason, they should be included even in courses that take a very different approach to theory and the literature compared to the course described here.

References

- Asao, K. (2001). Taiwa puroguramu [Conversation programs]. *Eigo Kyōiku*, 50(6), 60-61.
- AJALT [Association for Japanese-Language Teaching]. (2001). Inta-netto de Nihongo gakushū ga koko made kanō ni natta [This is how far Japanese study on the Internet has come]. *AJALT*, 24, 24-31.
- Asada, M. (2002). Manabiya: Dōshi Katsuyō Hen [The Learner: Verb Conjugations] [Computer software]. Kobe: Kobe Shisutemu Purodakutsu.
- Bates, A. W. & Poole, G. (2003). *Effective teaching with technology in higher education: Foundations for success*. San Francisco, CA: Jossey-Bass.
- Bachnik, J. M. (ed.). (2003). *Roadblocks on the information highway: The IT revolution in Japanese education*. Lanham, MD: Lexington Books.
- Beller-Kenner, S. (1999). CALL issues: Introducing students to computers. In J. Egbert & E. Hanson-Smith (Eds.), *CALL environments: Research, practice, and critical issues* (pp. 362-387). Alexandria, VA: TESOL.
- Bourges-Waldegg, P., & Scrivener, S. A. R. (2000). Applying and testing an approach to design for culturally diverse user groups. *Interacting with Computers*, 13, 111-126.
- Chapelle, C. A. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing, and research*. Cambridge: Cambridge University Press.
- Chapelle, C. A. & Hegelheimer, V. (2004). The language teacher in the 21st century. In S.

- Fotos & C. Browne (Eds.), *New perspectives on CALL for second language classrooms* (pp. 299-316). Mahwah, NJ: Lawrence Erlbaum Associates.
- Crichton, S., & Childs, E. A. (2004). Teachers as online educators: Requirements for distributed learning and teacher preparation. *Educational Technology*, 44(4), 25-30.
- Debski, R. (2003). Analysis of research in CALL (1980-2000) with a reflection on CALL as an academic discipline. *ReCALL* 15(2), 177-188.
- Den, Y. (1997). Konpyu-ta to taiwa suru tanoshimi [The pleasure of conversing with a computer]. *Gekkan Gengo*, 26(5), 56-61.
- Duhaney, D.C. (2001). Teacher education: Preparing teachers to integrate technology. *International Journal of Instructional Media*, 28(1), 23-30.
- Garrido, P. & Geissler, C. 1997. A Methodology for Software Evaluation. Available at <http://rkenner.concordia.ca/Teslpapers/Methodwebpage/tableofcontents.html>
- Godwin-Jones, R. (2003). Optimising web course design for language learners. In U. Felix (Ed.), *Language learning online: Towards best practice* (pp. 43-56). Lisse: Swets & Zeitlinger.
- Gottlieb, N. & McLelland, M. (Eds.). (2003). *Japanese cybercultures*. London: Routledge.
- Hargrave, C. P. & Hsu, Y-S. (2000). Survey of instructional technology courses for preservice teachers. *Journal of Technology and Teacher Education*, 8(4), 303-314.
- Harrison, R. (2004). Online Communities for Teaching Japanese. (SenseiOnline 44th Benkyoukai). Available at <http://lab.kisc.kobe-u.ac.jp/~harrison/senseipaper.html>
- Hatasa, K. (1999). Technological literacy for foreign language instructors and a web-based tutorial. In R. Debski and M. Levy (Eds.), *WorldCALL: Global perspectives on computer-assisted language learning* (pp. 339-353). Lisse, The Netherlands: Swets & Zeitlinger.
- Hatasa, K. (2002). *Nihongo kyōshi no tame no IT riterashi-nyūmon* [An introduction to IT literacy for Japanese language instructors]. Tokyo: Kuroshio Shuppan.
- Hatasa, K. (2003). The current state of computer use in Japanese language instruction. In Y. A. Hatasa (Ed.), *An invitation to second language acquisition research in Japanese: In honor of Seiichi Makino* (pp. 229-242, 126-129). Tokyo: Kuroshio Shuppan.
- Hegelheimer, V., Reppert, K., Broberg, M., Daisy, B., Grgurovic, M., Middlebrooks, K. & Liu, S. (2004). Preparing the new generation of CALL researchers and practitioners: What nine months in an MA program can (or cannot) do. *ReCALL*, 16(2), 432-447.
- Hubbard, P. (2003). A survey of unanswered questions in CALL. *Computer Assisted Language Learning*, 16(2-3), 141-154.
- Hubbard, P. (2004a). A Mini-Course for CALL Teacher Training. CALL Interest Section Academic Session, TESOL Conference 2004. Available at [http://www.edvista.com/clair/pres/tesolcallacad\(2004\)/minicourse/index.htm](http://www.edvista.com/clair/pres/tesolcallacad(2004)/minicourse/index.htm)
- Hubbard, P. (2004b). Some Subject, Treatment, and Data Collection Trends in Current CALL Research. Paper presented at the 11th CALL Conference 2004. Abstract available at [http://www.didascalie.be/downloads/CALL\(2004\)/Abstracts/CALL\(2004\)_25.rtf](http://www.didascalie.be/downloads/CALL(2004)/Abstracts/CALL(2004)_25.rtf)
- Ikeda, N. (2003). *CALL donyū to kaihatsu to jissen: Nihongo kyōiku de no konpyu-ta no katsuyō* [The introduction, development, and practice of CALL: Application of computers to Japanese language education]. Tokyo: Kuroshio Shuppan.
- Iribe, A. (2003). *Wa-do wo tsukatte wan ranku appu no sakubun shidō wo* [Improving com-

- position instruction using *Word*]. *Gekkan Kokugo Kyōiku*, 23(9), 28-31.
- ISTE. (2004). National Educational Technology Standards for Teachers. Retrieved September 12, (2004) from http://cnets.iste.org/teachers/t_stands.html
- IT Strategy Headquarters. (2001). e-Japan Strategy. Available at http://www.kantei.go.jp/foreign/it/network/0122full_e.html
- Japan Foundation. (2004). Japanese-Language Education Overseas. Available at http://www.jpf.go.jp/e/japan/news/0407/07_01.html
- Johnson, M. (1999). CALL and teacher education: Issues in course design. *CALL-EJ Online*, 1(2). Available at <http://www.clec.ritsumei.ac.jp/english/callejonline/4-2/johnson.html>
- Kamhi-Stein, L. D. (2000). Looking to the future of TESOL teacher education: Web-based bulletin board discussions in a methods course. *TESOL Quarterly*, 34(2), 423-455.
- Kaiser, S. (1993). The potential of CASTEL/J: A database-oriented approach to CALL. In S. Kaiser (Ed.), *Japanese language teaching in the nineties: Materials and course design* (pp. 69-78). Sandgate, Kent: Japan Library.
- Katō, H. (2000). Kakareta tekisuto kara yōrei wo sagasu [Searching for examples from written texts]. *Nigongogaku*, 19(6), 35-43.
- Katō, Y. (1998). Jiten to ko-pasu [Dictionaries and corpora]. *Nihongogaku*, 17(14), 37-44.
- Kessler, G. (in press). Assessing CALL teacher training: What are we doing and what could we do better? In Hubbard, P. & Levy, M. (Eds.), *Teacher education in CALL*. Amsterdam: John Benjamins.
- Kokuritsu Kokugo Kenkyūsho. (2004). IT wo Katsuyō shita Nihongo Gakushū Kankyō no Seibi [Preparation of an environment for Japanese-language learning using IT]. Available at <http://www.kokken.go.jp/ejapan/>
- Levy, M. (1997). A rationale for teacher education and CALL: The holistic view and its implications. *Computers and the Humanities*, 30, 293-302.
- Levy, M. (2000). Scope, goals, and methods in CALL research: Questions of coherence and autonomy. *ReCALL*, 12(2), 170-195.
- Levy, M. (2002). CALL by design: Discourse, products, and processes. *ReCALL*, 14(1), 58-84.
- McLaughlin, S. (2004). Preparing the Next Generation of CALL Practitioners. CALL Interest Section Academic Session, TESOL Conference 2004. Available at [http://edvista.com/claire/pres/tesolcallacad\(2004\)/](http://edvista.com/claire/pres/tesolcallacad(2004)/)
- Machida, T., Yamamoto, R., Watanabe, H. and Yanagi, Y. (2001). *Atarashii sedai no Eigo kyōiku: Dai3 sedai no CALL to sōgōteki na gakushū no jikan* [A new generation of English education: Third-generation CALL and the class for comprehensive learning]. Tokyo: Shōhakusha.
- McGreal, R. (2004). Learning objects: A practical definition. *International Journal of Instructional Technology and Distance Learning*, 1(9), 21-32. Available at http://itdl.org/Journal/Sep_04/article02.htm
- McMartin, F. (2004). MERLOT: A model for user involvement in digital library design and implementation. *Journal of Digital Information*, 5(3). Article 293. Available at <http://jodi.ecs.soton.ac.uk/Articles/v05/i03/McMartin/>
- Meguro, A., Yasui, A., Lee, S. & Luangmettakun, W. n.d. *Takeshi's Diary*. [The JALT CALL Journal 2005 \[Vol. 1.3\] — 13](http://www.welove-</p></div><div data-bbox=)

- japanese.com
- Musumeci, D. (2001). University of Illinois at Urbana-Champaign: The Spanish Project. In C.A. Twigg (Ed.), *Innovations in online learning*, 25. Troy, NY: Center for Academic Transformation, Rensselaer Polytechnic Institute. Available at <http://www.center.rpi.edu/PewSym/Mono4.pdf>
- Nagata, N. (2004). ROBO-SENSEI: Personal Japanese Tutor [Computer software]. Boston, MA: Cheng & Tsui.
- Nakajima, K. (Ed.). (1999). *CASTELJ '99 proceedings: Computer technology and Japanese language education*. (The Second International Conference on Computer Assisted Systems for Teaching & Learning / Japanese, August 22-25, 1999). Toronto, Canada: University of Toronto.
- Nakajima, K. (Ed.). (2002). *Learning Japanese in the network society*. Calgary: University of Calgary Press.
- National Working Group on Japanese Language Competency Goals. (2000). *Resources for the implementation of standards for Japanese language learning preschool-college*. Boulder, CO: Alliance of Associations of Teachers of Japanese.
- Nihongo Kyôiku Gakkai Kyôshi Kenshû Inikai. (2004). *Onrain kyôshi kenshû no kannôsei no tankyû* [Inquiry into the potential for educating teachers online]. Tokyo: Nihongo Kyôiku Gakkai.
- Nozawa, K. (1997). A theoretical and practical CALL class for graduate students. *Hibarino*, 19, 66-81.
- Omoto, Y. (2004). Nihongo kyôiku ni okeru tekunoroji- gaidorain no kokoromi [Establishing technology guidelines for teachers of Japanese]. Paper presented at the ATJ Seminar 2004. Available at <http://www.japaneseteaching.org/ATJseminar/2004/omoto.html>
- The Oxford-Duden pictorial English dictionary*. (1981). Tokyo: Japan Publications Trading Co.
- Palloff, R. M. & Pratt, K. (2001). *Lessons from the cyberspace classroom: The realities of online teaching*. San Francisco, CA: Jossey-Bass.
- Robb, T. N. & Susser, B. (2000). The life and death of software: Examining the selection process. *CALICO Journal*, 18(1), 41-52.
- Schneider, K. (2003). Nihongo kyôshi wo taishô to shita kaki kôshû ni okeru IT kenshû [IT training in a summer course for teachers of Japanese]. In Y. Tôsaku (Ed.) *Nihongo kyôshi no senmon nôryoku kaihatsu: Amerika no genjô to Nihon e no teigen* [Development of Japanese language teachers' instructional abilities: The situation in the United States and a proposal for Japan] (pp. 143-154). Tokyo: Nihongo Kyôiku Gakkai.
- Schneider, K. (2004). Nihongo kyôshi ni motomerareru tekunoroji- no chishiki to nôryoku: hyôjun to kenshû - shien no tame no hyôka tsu-ru no kaihatsu [Technology knowledge and skills needed for teachers of Japanese: Developing standards and assessment tools for professional development and support]. Panel discussion at ATJ Seminar 2004. Available at <http://www.japaneseteaching.org/ATJseminar/2004/schneider.html>
- Sinclair, J. (2003). *Reading concordances: An introduction*. London: Pearson Longman.
- Susser, B. (1998a). CALL teacher education: Components and questions. In P. Lewis (Ed.),

- Teachers, learners, and computers: Exploring relationships in CALL* (pp. 9-16). Nagoya, Japan: The Japan Association for Language Teachers Computer-Assisted Language Learning National Special Interest Group.
- Susser, B. (1998b). The mysterious disappearance of word processing. *Computers and Composition*, 15(3), 347-371.
- Susser, B. (2000). Issues in courseware design: The example of Japanese as a foreign language. *Sōgō Bunka Kenkyusho Kiyō*, 17, 64-79.
- Susser, B. (2001). A defense of checklists for courseware evaluation. *ReCALL*, 13(2), 261-276.
- Susser, B. (2002). Effectiveness and evaluation in CAL. *LET Kansai Shibu Kenkyū Shūroku*, 9, 1-12.
- Susser, B. (2005). Elements of e-teaching. Paper presented at the 2005 Spring conference of LET Kansai Shibu, Doshisha University, May 21.
- Susser, B. & Robb, T. N. (2004). Evaluation of ESL/EFL instructional Web sites. In S. Fotos & C. Browne (Eds.), *New perspectives on CALL for second language classrooms* (pp. 279-295). Mahwah, NJ: Lawrence Erlbaum Associates.
- Tanomura, T. (2003). Ko-pasu ni yoru bunpo no kenkyū [Research on grammar with corpora]. *Nihongogaku*, 22(5), 174-186.
- Tohsaku, Y.-H. (Ed.). (2002). *CASTEL/J Proceedings: Computer technology and Japanese language education* (The Third International Conference on Computer Assisted Systems for Teaching & Learning/Japanese, July 11-14, (2002)). La Jolla, CA: University of California, San Diego.
- Uden, L., Alderson, A. and Tearne, S. (2001). A conceptual model for learning Internet searching on the Internet. *Proceedings of the 34th Hawaii International Conference on System Sciences*. Available at <http://csdl.computer.org/comp/proceedings/hicss/2001/0981/01/09811058.pdf>
- Uden, L. & Dix, A. (2000). Iconic interfaces for kids on the Internet. IFIP World Computer Congress, Beijing. Available at <http://www.comp.lancs.ac.uk/computing/users/dixa/papers/kids-icons-2000/kids-icons-2000.pdf>
- White, C. (2003). *Language learning in distance education*. Cambridge: Cambridge University Press.
- Wildner, S. (1999). Technology integration into preservice foreign language teacher education programs. *CALICO Journal*, 17(2), 223-250.
- Yamashita, S. (2001). *Multimedia Materials for Japanese Language Learning for International Medical and Dental Students* [Computer software]. Tokyo: Tokyo Medical and Dental University.

Author Note

Bernard Susser, Department of Information and Media, Doshisha Women's College.

I thank Professors Phillip Hubbard and Thomas N. Robb for their helpful comments on early drafts of this paper.

Footnotes

¹ Conference panels devoted to CALL teacher education were held at almost the same time at TESOL (McLaughlin, 2004) and the ATJ Seminar (Schneider, 2004).

² See Bachnik (2003) for a critical review of ICT in Japanese higher education and Gottlieb and McLelland (2003) for a survey of Internet use in Japan.

³ I do not mean to imply that Japanese students are particularly bad at ICT; research in the US has shown that not only students but also professionals hardly made use of the advanced functions of their computer software (Susser, 1998b, pp. 361-362).

⁴ *Eliza* is a computer program written by Joseph Weizenbaum in 1966 that uses pattern matching to maintain a rudimentary conversation with the user; see, e.g., the description in the *Wikipedia* (<http://en.wikipedia.org/wiki/ELIZA>).