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Main strategies of Internet-based Japanese language teaching and the associated risks

A thesis presented in partial fulfilment of the requirements
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Abstract

This study formulates two models of using Internet in classroom based Japanese language education. The models identified, the static model and the dynamic model, can be used in planning the strategy of introducing Internet as an educational medium in Japanese language classroom. Apart from elaborating the features of the models, and clarifying their relationships to recognized foreign/second language teaching approaches, we determine the risks, associated with Internet based Japanese language education and consider the ways to mitigate them.

Our study is backed by 2 surveys, and by qualitative and quantitative analysis of Internet search engine data and of a database of teachers' beliefs data. This study may be of value to Japanese language teachers and learners, education administrators and to designers of CALL software.

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And, my sincere thanks to my family in Japan, and here in New Zealand.

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Chapter 1. Introduction

Over the course of human history, technology has played an important role in how language was acquired and learned. It applies both to first, and, particularly, to second, and foreign language study.

Within the European tradition, the Grammar-Translation method of foreign language teaching was associated with the media of pen, paper and printing press. For Middle Ages and Renaissance scholars, the languages of interest were the dead ones, and the objective was mainly bible study. As means of transportation were limited, there was little incentive to study living languages, and the teaching method had to be based on following grammar rules because they were the only available criterion of linguistic correctness.

The Industrial Revolution brought trade and migration. It also opened information flows between nations, and created incentives to acquire technical and cultural knowledge, expressed in foreign, yet living, languages. In the case of Japan, the impact of opening up to foreign technology and culture over Meiji and Taisho periods was so great, that some cultural and political figures seriously considered getting rid of Japanese language altogether, and switching to English and/or French (Ohno 1999; Gerbert 1997). The media options have also widened, as glass show windows, radio and movies became widespread (Gerbert 1997). As far as foreign language teaching is concerned, the Grammar-Translation method was criticized as not leading to fluency (or, indeed, minimal communication proficiency), and reform movement has resulted in the introduction of Direct Method, emphasizing communication in the target language.

In the middle of the 20th century, after the Second World War, the need to learn foreign languages continued to increase as technological developments were gaining pace and competition between nations was at its highest point ever. There were also huge advances in media technology, and thus in the ways language could be delivered. In particular, media technology was “democratized”; average schools could afford tape recorders, TV sets and, later, video recorders. This period is characterized by the introduction of the Audio-lingual method, based on behaviorist theory and heavily relying on sound equipment for the delivery of repetitive drills.

Chomsky's theory of natural grammars and the concept of language acquisition as construction, based on inborn natural ability have led to a strong criticism of behaviourist language learning theory in general and of the Audio-lingual method in particular. Starting from the seventies, the prevailing approach to language teaching (in western societies) is the Communicative approach and its numerous variations, such as the Silent Way, Suggestopedia, Community Language Learning and Total Physical Response. Today, the stress is not on repetitive drills, but on communication between learners in the target language. Learners are allowed to make mistakes as they "construct" the target language, while going over a sequence of "intermediate grammars" and there is much more scope for individual work and for work in small groups, and the work is less assessment - oriented.

While superficially the change from Audio-lingual to Communicative approach might seem to be triggered by advances in theory rather than by technological advances, one could also attribute it to the changes in workplace organization. Post-industrial society relied more on creative work of individuals and small groups within organizations, and less on mechanical work of conveyer workers. Mechanical work could now be done by machines. This change in overall organizational philosophy, triggered itself by technological innovation, found its way into the foreign language classroom.

Right now, we are in the middle of enormous technological transformations, brought by the Internet technology. The Internet is a communication technology, working transparently over national borders. And, it is the most "democratic" technology ever: access is very cheap (at least, in all industrialized western societies), and all participants can potentially act both in receptive and in creative capacity. What are the implications for foreign language teaching and learning? Here are some examples:

A learner ...

... has access to effectively unlimited resources of up-to-date authentic target language materials

... can communicate with native speakers of the target language, or, at least, eavesdrop on native speakers' conversations

... can publish his work for everyone on the Internet to see and to comment on

A teacher

... can deliver material over the Internet, for remote asynchronous access from, essentially, anywhere

... communicate with students remotely and asynchronously

Is the advent of almost global Internet connectivity going to lead to a change in a prevailing approach to foreign/second language teaching? Many authors believe that Communicative approach is going to be enhanced and replaced by an approach based on Constructivism. In Constructivist language teaching, linguistic knowledge is constructed while students work on individual or group projects. Student autonomy is increased still further, as students participate in defining the projects, and thus, in defining the curriculum. The Internet serves as an ideal source of materials for the projects, as well as a communications medium. The teacher's role is the one of a facilitator.

While at each moment in history, a certain approach is considered to be the most "correct", in real practice approaches often coexist. For example, when using Audio-lingual method, while mostly the study is concentrated on practicing patterns to make them automatic, some theoretical explanation of the underlying grammatical phenomena can still be given, as in Grammar-Translation approach. A good teacher would, often unconsciously, mix different approaches to find the best combination for a specific teaching situation.

In this thesis, we maintain a view that teaching will remain necessarily eclectic; we consider the existing practice in the use of Internet in foreign/second language teaching and try to pinpoint trends, which would be indicative of successful strategies in the use of the Internet in language teaching in the future. By strategy we do not necessarily mean the use of a single language teaching approach, but rather possible combinations of approaches.

Primarily, we are interested in Japanese language teaching to learners with no knowledge of Chinese characters. On the other hand, we will often use information available on teaching other languages over the Internet, such as French (as we will see, there is more experience in teaching English, German and French over the Internet, than in teaching

Japanese).

The specifics of Japanese language is in its relatively steep learning curve. An English speaker already knows most of the French roots because of the similarity between the languages. Thus, an English speaker learning French can acquire reading ability and basic communicative ability very fast, which simplifies the use of Constructivist approaches, and the use of Internet based authentic materials. Much more has to be learned before an English speaker will be able to make sense of authentic materials in Japanese. Thus, a learner of Japanese would require more guidance, from a real teacher or from a CALL computer program.

Introduction of a new technology in an organization is always associated with risks. Risks may be apparent, such as when lessons break down completely because students spend all their time browsing sites, unrelated to the target language, or hidden, such as when Internet - based lessons are effective, but not effective enough to justify the investment made into the computer network infrastructure. If Internet-based teaching strategies are to be implemented, the risks are to be identified, and ways to mitigate them are to be found. In the current work we do not stop on defining strategies, but also make an attempt to identify risks.

Apart from the existing literature, devoted to the subject, both in printed form and on the Internet, the following sources of information are used.

Statistical information is obtained by using structured searches in google.com, the leading Internet search engine.

A database of teachers' beliefs about on-line teaching and learning, available in public domain, is analyzed directly.

A paper-based survey is conducted to collect information on the attitude of second / foreign language learners to Internet-based language study (participants studied a variety of languages, not exclusively Japanese).

An on-line survey targeted at Japanese language learners with a degree of Internet proficiency is conducted.

The rest of the thesis is organized as follows. In Chapter 2, the significance of the study is confirmed. The main strategies for the Internet use for Japanese language teaching are introduced tentatively.

In Chapter 3, we confirm the two main strategies by considering the underlying teaching methods and technologies.

In Chapter 4, we consider the risks associated with Internet use for Japanese language educations, and suggest ways to mitigate them.

Finally, Chapter 5 draws conclusions and outlines directions for further study.

Chapter 2. Background and overview

Here we consider the relevance of the current study, and formulate the main principles, followed in our research.

2.1 Internet and foreign language teaching

Recently, computer hardware, software and associated services, such as Internet access, have become very affordable, which has opened new fields for computer applications. One of the areas where availability of cheap computational, and especially, multimedia resources can provide new opportunities is Computer Assisted Language Learning (CALL).

While the first CALL systems were introduced in the late 1960s, their acceptance was hindered both by costs and by the complexity of the systems, which often required professional technical support. Many educators were also skeptical about the effectiveness of CALL, sometimes justifiably (Ahmad et al. 1985; Cameron 1989; Levy 1997 A).

The situation, however, is changing with the advent of the Internet and with improvement in computer hardware and software. The Internet has revolutionized computer-assisted language learning in diverse ways.

In particular, the Internet has altered ways in which software is distributed and presented. Firstly, there is no need to install or manage software on the user's computer. An interactive web site is deployed on a web server, and the administrative load on users is negligible. Secondly, the distribution chain can be bypassed. The simple fact of its deployment on a server makes the software available to all users with Internet connectivity. At the same time, WWW site owners can benefit financially by including commercial advertisements on their sites. Thirdly, both learners and teachers are now increasingly likely to use computers and the Internet to accomplish routine tasks such as shopping, banking, and sending messages. This has lowered the psychological barrier: both teachers and learners are likely to be comfortable with the concept of using technical aids for language learning. In fact, children who spend a lot of time playing computer games may be more

comfortable learning a foreign language by playing with a computer than by reading a book. Multimedia capabilities, and, correspondingly, both the expressive power and the potential for interactivity have greatly improved. Streaming multimedia (sound and video), speech synthesis and recognition are now within reach of an average PC user. Internet sites are already offering audio stream services on-demand. Video will also be available in real-time once bandwidth availability is improved.

On the other hand, the Internet has provided capabilities, which were not present in classical CALL. Learners are not limited to language teaching - related materials. Authentic materials in most languages are freely available and can be adopted for language teaching purposes. Also, by using Internet, language learners can communicate synchronously (instant messaging, chat) and asynchronously (email, forums) with other language learners, or, even, native speakers, all around the world. Any projects, undertaken by the students, can be reported on the Web (by creating a WWW site and placing in on a publicly accessible server), and feedback, such as comments sent via Email, can be received from Internet users all around the world.

Many WWW sites have been designed for foreign language learning and the variety is quite rich. Target languages vary and so are the targeted proficiency levels. A range of practices for skills such as reading, listening, writing and speaking is provided. Some sites include interactivity between learners, a learner and a native speaker and/or a learner and a teacher, while other sites function mono-laterally, as conventional textbooks do. There are sites, which automatically evaluate learners' performance (for example, by giving percentages of correct answers with a graph of records of past performance so that learners can see how they are improving and where their strengths and deficiencies lie) instantaneously while others merely give correct answers. Other sites function merely as portals, allowing information exchange between students and the teacher, or between students. A student would read an assignment, posted at the site, complete it, and submit it for evaluation by the teacher via the site interface.

Variety is seen not only in the types of WWW sites but also in the utilization of the Internet in general. With the Internet, foreign language teachers can now provide a more communicative, collaborative, constructive and dynamic language leaning environment,

which appeals to learners, particularly in terms of enhancing interest and motivation, facilitating intuitive and intensive learning and fostering confidence and satisfaction with activity completion in the very target language. (Warschauer 1996; Debski 1997; Aida 1997; Carel 1999; Giffen 1999; Hellebrandt 1999; Kost 1999; Kubota 1999; Reagan 1999; Tachibana 1999; Wiburg et al. 1999)

2.2 *Technology and foreign language education environment*

To assert the significance of the current study, we have to consider the availability of Internet access at schools and at students' homes, and the popularity of Japanese as a foreign language. In particular, we are interested in the situation in New Zealand.

2.2.1 Availability of Internet access

In terms of computer hardware and network infrastructure, technology has now reached a stage where the Internet can be readily utilized for foreign language education. The number of computers and the availability of Internet access are increasing both in the home and at school worldwide.

In New Zealand schools, one computer machine is available for every six students at secondary schools and for every 11 students at primary schools (Figure 1). Internet access is quite ubiquitous. As shown in Figure 2, 99% of secondary schools and 96% of primary schools are connected to the Internet. These Internet access availability rates are at a similar level to that of public schools in USA (www.med.govt.nz).

The New Zealand Government provides strong support for the teaching of information and computing technology (Butler 2000). The budget spent on IT education is relatively high in comparison with other countries. The Economist (Woodall 2000) estimated, that in New Zealand, the percentage of the GNP spent on IT is the highest in the world.

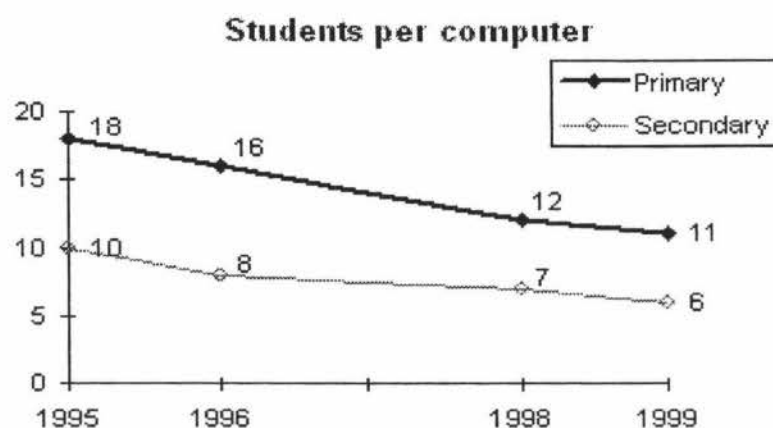


Figure 1. Numbers of students per computer

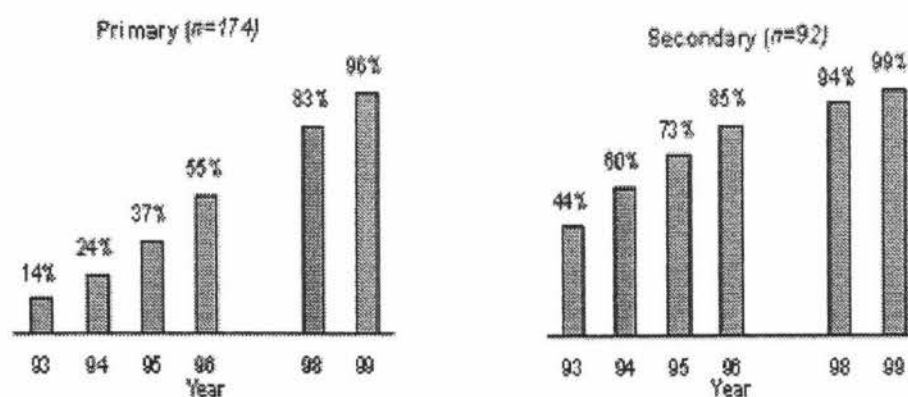


Figure 2. Internet access at school

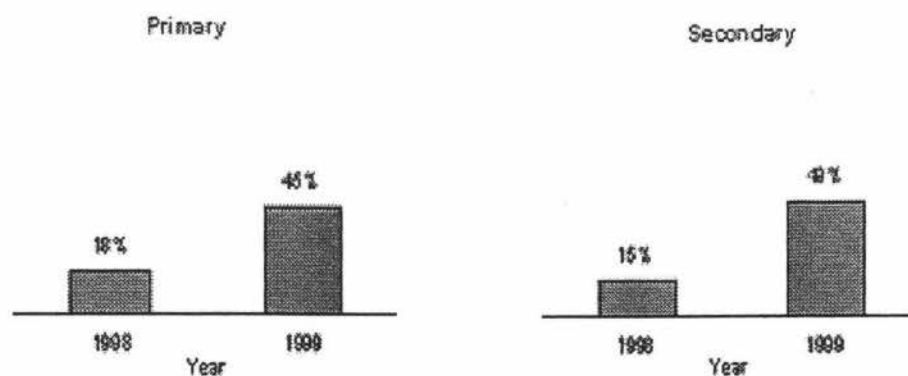


Figure 3. Percentage of schools with 25% or more of the teaching staff using the World Wide Web weekly

2.2.2 Demand trends in foreign language education

It is expected that the number of Japanese language learners outside Japan will increase in the near future. The following points, especially, should be taken into account.

2.2.2.1 Overseas students increase plan

In September 2000, the Japanese government announced that it is planning to increase the overseas student numbers more than twofold in the next 10 years (currently, the number of students is 56,000) (Asahi 2000). A similar project was announced in the 1983 by the then Prime Minister Yasuhiro Nakasone. His project was not successful due to the reasons such as the poor infrastructure of the Japanese language education environment (such as teachers' qualifications and the authorization system, hindering the establishment of private Japanese language schools), strict immigration laws and complicated procedures involved in obtaining a student visa (Furukawa et al. 1997).

However, the situation now seems to be far more promising for students. One of the reasons lies in the huge decrease of student numbers at university level inside Japan, due to demographic factors. Many universities are competing with each other to ensure their enrolments. Therefore, the Japanese government is working positively to increase the number of students from outside the country. In the new plan, more scholarships are to be offered; students will be able to sit the Japanese language test (to be called Touitsu Gakuryoku Shiken) overseas, not just in Japan, from 2002; and the requirements for student visas and Ph.D. qualifications will be eased (for example, submission of theses written in English will be more readily permitted).

2.2.2.2 International language learning from the early stages

Recently, many countries, including New Zealand, the U.S. and Japan, have begun to offer foreign language teaching for students from earlier age. In the case of Japanese language learning in New Zealand, while the number of students who study the language at secondary schools has decreased over the last two years, at primary and intermediate levels the numbers of students who study Japanese and the numbers of schools that provide Japanese language lessons are increasing, as shown in Figures 4, 5, and 6 (Kano 2000).

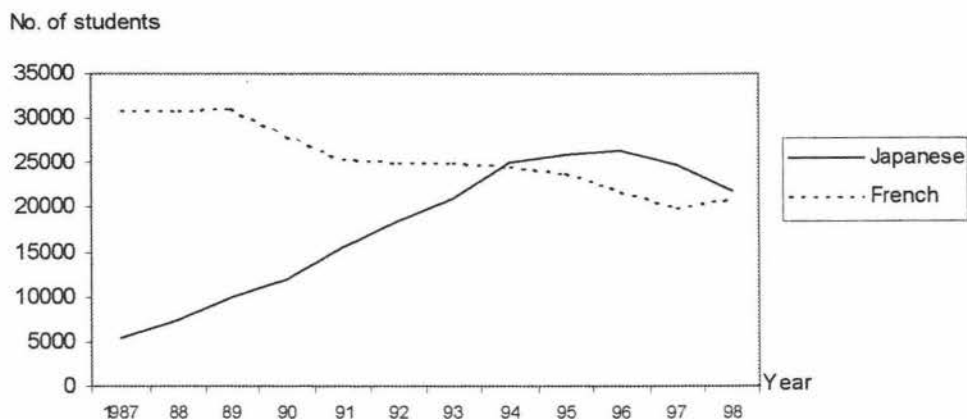


Figure 4. Students studying Japanese language (Secondary schools)

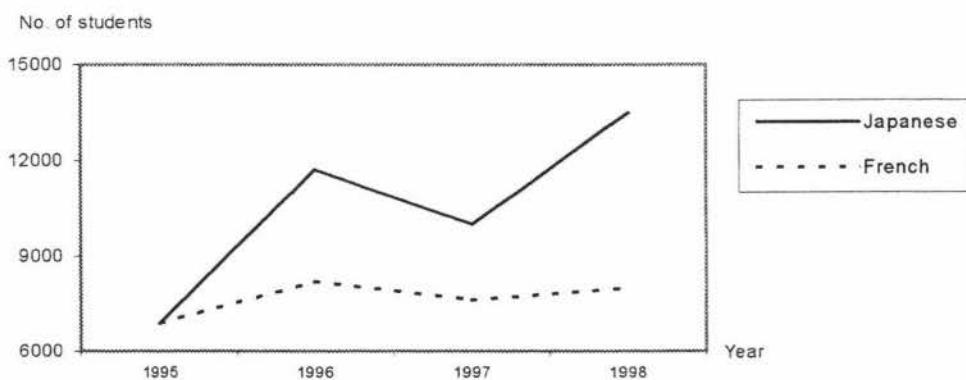


Figure 5. Students studying Japanese language (Primary schools)

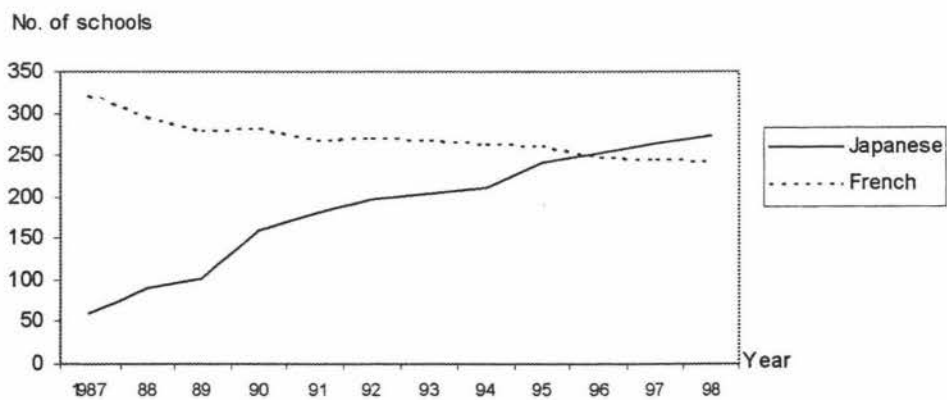


Figure 6. Primary schools offering Japanese language lessons

This, to a large extent, may be due to the work of the Ministry of Education, which emphasized that foreign language learning should be started at an early age.

2.2.3 Exposure to authentic language over the Internet

There are some problems when a foreign language is taught outside the country where the language is used (Carel 1999; Tanaka 1999; Yamada 1999; Miwa 1999 A; Ohso 1999; Kubota 1999; Rose 1996), the main one being the absence of a natural linguistic environment which would serve both as a source on linguistic knowledge, and as a motivation enhancer, constantly reminding the learner of the utility of mastering the target language. Also, there is often a shortage of teachers who are native speakers of the language. In addition, authentic materials, which could be used for language learning and teaching may be scarce and out-of-date.

With the Internet, however, these problems can be solved, as it, essentially, removes the barriers imposed by distance and political borders, as far as access to information is concerned. On the Internet, the only remaining boundaries are language and cultural ones, the ones to be traversed in course of language study. It provides a rich variety of authentic and up-to-date information that helps cultural understanding and language learning, enhancing students' interest and motivation, both of which are important elements for improving language proficiency.

While providing an opportunity for passive exposure, the Internet can also be used to actively apply and enhance foreign language knowledge through communication with other language learners, and, possibly, native speakers. This enables learners to use the target language both actively and passively, and to become more confident in using the target language (Aida 1997; Kubota, 1999; Tachibana 1999).

2.2.4 More IT education and IT utilization in education

Overwhelming evidence shows that the Internet is being increasingly used in the field of education and training. One of the trends is the World Wide Web utilization in distance learning (Debski 1997; Porter 1997; Hegarty et al. 1998; Jager et al. 1998; Swartz and Biggs 1999; Albert and Thomas 2000; Martel 1999). A great number of universities now

provide World Wide Web based courses. Also, both educational and "real world" software is increasingly being used in regular courses, in particular, in Science, Engineering and Business. Figure 3 demonstrates, that in New Zealand, computers are being increasingly used not only by students, but also by teachers.

Better IT education in schools and higher exposure of teachers to Internet technology are likely to create favorable conditions for the use of Internet in language teaching in general, and in teaching of Japanese in particular. Expertise, acquired in creating and managing Web - based courses in other subjects can be applied in creation and management of Japanese language courses with Internet component. And what probably is most important, the increased exposure of both teachers and students to Information Technology is likely to improve acceptance by them of Internet as an educational medium.

2.3 Benefits and problems of Internet utilization for Japanese as a foreign language education

Here we consider the benefits and the problems of Internet utilization in foreign language teaching, and justify the need for risk analysis as an important part of curriculum creation activity.

2.3.1 Benefits of Internet utilization for Japanese language education

The use of the Internet in the fields of education and training has increased dramatically. This is not only because of the increase in the numbers of computers and the availability of Internet access. Internet has also drawn the attention of educators and trainers, because it has a great number of advantages compared to conventional learning and teaching techniques and can be used to complement them. The advantages may be classified as seen in Figure 7.

- 1) Advantages of the Internet utilization for education in general
- 2) Advantages of the Internet utilization for foreign language education
- 3) Advantages of the Internet utilization for Japanese language education

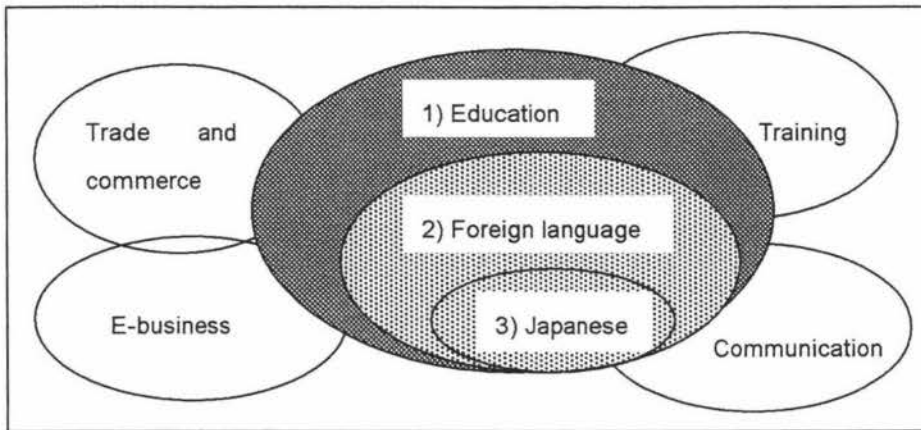


Figure 7. Internet utilization in the field of education

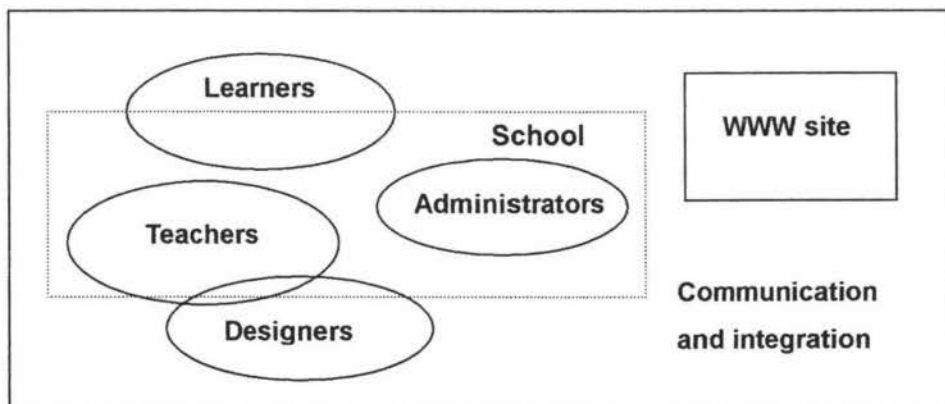


Figure 8. Internet use for foreign language education - problem areas

2.3.1.1 Advantages of Internet utilization for education in general

The following benefits derive from using the Internet for learning and training in general (Debski 1997; Khan 1997; Warshauer 1997; Aida 1999; Alam 1999; Lee et al. 1999; Smeets and Mooij 1999; Tsutsui 1999; Albert and Thomas 2000; Martinez and Bunderson 2000):

- a) Can be used anytime, anywhere, as much as learners want
- b) Personal and relaxed conditions
- c) Quick response
- d) Interactivity
- e) Free of charge (in many cases)
- f) Freedom to browse for learners (learner-centered study)
- g) Simplifying the assessment and evaluation
- h) No restriction of hardware (Web content is largely portable over all modern systems)
- i) Easy application of multimedia
- j) Flexible course schedule
- k) Collaborative learning environment, synchronous or asynchronous

2.3.1.2 Advantages of the Internet utilization for foreign language education

In addition to the benefits listed above, the following points can be added as advantages of Internet use in foreign language education (Levy 1997 A; Debski 1997; Vallance 1998; Douglas 1999; Gonglewski 1999; Kost 1999; Kubota 1999; Miwa 1999 A; Moore 1999; Skinner and Austin 1999; Swartz and Biggs 1999; Suzuki et al. 1999; Tachibana 1999; Weyers 1999):

- a) Communication with native speakers (email, chat, on-line discussion)
- b) Exposure to and absorption of the target language
- c) Information collection (in the target language)
- d) Authentic, real life language
- e) Current issues in the countries in which the target language is spoken
- f) Information related to language learning (such as textbook reviews)
- g) Cultural understanding

- h) On-line dictionaries and other reference materials
- i) Multimedia as a means to simulate the target language environment
- j) Enhances motivation and interest through exposure to authentic language materials
- k) Synergy effect (interest in computers and exposure to the target language)

Kawakami and Udagawa (1996) conducted a survey on the state of Japanese language teaching in New Zealand. According to the survey, Japanese language teachers perceive a need to improve the available multimedia teaching materials (53.6% of the respondents), their own language proficiency (50.0%), to introduce proper activities and games (48.2%) and to provide more information about Japan (44.6%). All of these needs could be addressed by using the Internet as a language resource.

2.3.1.3 Advantages of the Internet utilization for Japanese language education

Furthermore, the following points should be taken into account as advantages of Internet utilization for Japanese language education in particular (Tamamura 1997; Ishigami et al. 1999; Kubota 1999; Kano 1999; Tachibana 1999; Rose 1996):

- a) Character mastery (Hiragana, Katakana and Kanji)
- b) Vocabulary increase
- c) Quick word / Kanji character search
- d) Cultural understanding

The first wall that learners may face in Japanese language learning is Kana mastery. Then, even after the learners have mastered unfamiliar Kana characters, they must learn numerous Kanji characters.

For Kana and Kanji mastery, self-study is indispensable and practice is likely to take place outside the classroom. Learning can be frustrating and dull if there is no incorporation of elements of game, encouragement and evaluation. This is one area where computers can be a vital aid in Japanese language learning, as interactive drills can be structured as entertaining arcade games. Computers never tire of repetitive activities. They are precise, and they give instant feedback that indicates the learners' mastery levels and encourages

them.

The second obstacle Japanese language learners may find difficult to overcome is the sheer volume of vocabulary (Tamamura 1997). In comparison with other languages, Japanese learners need to remember a far greater number of words. Table 1 shows how proficient students are in talking, reading and writing, depending on the volume of vocabulary mastered. For example, if an English language learner masters five thousand words, he can understand 93.5% of the content. This percentage is similar to English, French, Spanish, Russian and Chinese. However, in case of the Japanese language, such a language learner can understand only around 81.7 % of the content.

In order to remember the huge amount of vocabulary required and not to forget the words they have already learnt, Japanese language learners need to study the language more frequently and repetitively than those who study other languages. Internet can be used to deliver interactive drills, and, more importantly, it can provide exposure to wide array of authentic materials, facilitating both acquisition and retention of the vocabulary.

No. of words	English	French	Spanish	Russian	Chinese	Japanese
1 – 500	-	-	-	57.5	63.1	51.5
1 – 1,000	80.5	83.5	81.0	67.46	73.0	60.5
1 – 2,000	86.6	89.4	86.6	80.0	82.2	70.0
1 – 3,000	90.0	92.8	89.5	85.0	86.8	75.3
1 – 4,000	92.2	94.7	91.3	87.5	89.7	77.3
1 – 5,000	93.5	96.0	92.5	92.0	91.7	81.7
Total	93.5%	96.0%	92.5%	92.0%	91.7%	81.7%

Table 1. Reading and listening comprehension as a function of vocabulary volume learned (Tamamura 1997; p49)

Thirdly, as Douglas (1999) points out, an on-line dictionary makes it possible to look up the meaning of words or the readings of Kanji characters much more quickly than when using a conventional dictionary. In particular, when the text being read is computer based, and important barrier in reading Japanese texts is all but eliminated, as words, written in Kanji characters can be cut and pasted into the on-line dictionary. In case of paper-based texts, there is not easy way to look up a Kanji character, unless a learner already knows a great deal about (its reading or its radical, or its classification according to Halperin's system). This situation is exacerbated by the fact, that in Japanese many characters can

have multiple readings, and in many cases reading of a character in a word is non-standard, creating a paradoxical situation when a learner needs to know a word in order to look it up in the dictionary.

Even when the reading is known, on-line dictionaries save a lot of time, as one does not have to flip pages, searching for the entry. For extensive reading, it is very important not to be distracted by constantly searching in a dictionary, which tends to interrupt the flow of the learner's thought.

Finally, an important point to be considered is the culture. When learning Japanese language, it is necessary to understand how the target language is utilized in real life (Ishigami et al. 1999; Tachibana 1999). Even if a learner merely wishes to master the language, it will be beneficial to know about the country in which the language is spoken. The information can trigger the learner's curiosity, help enhance the learner's motivation and thus lead to more intensive learning. Moreover, a language is rooted in the society, which created it. To master the language, learners need to understand the cultural conventions behind the language artifacts.

One example of the importance of cultural understanding in Japanese language learning is the use of honorific expressions. In Japan, people differentiate words depending on the age or status difference between a speaker, a listener and the person spoken about.

More generally, as Japanese culture values silence, harmony and mutual understanding, in conversation it is common to omit items, rather than to spell everything out explicitly. The meaning is expected to be understood from context. A Japanese language learner, who does not have an understanding of the interplay between Japanese language and Japanese culture might not be able to communicate successfully even if his knowledge of vocabulary and grammar involved is quite satisfactory.

Language learners need to comprehend the meaning of words and expressions in context. It is important to experience the culture to be able to communicate with native speakers in the "real world". To assist with this, videotapes have been used in the classroom. These can now be replaced or supplemented with the Internet. Internet can offer different levels of

exposure to Japanese culture, from duplicating the video/audio playback capabilities of conventional equipment to real communication with real people.

2.3.2 Current problems and limitations

While benefits of the Internet use for foreign language education are quite evident, it is also true that some obstacles exist, which hinder wider and more effective use of computers and the Internet (Ahmad et al. 1985; Debski 1997; Khan 1997; Smeets and Mooij 1999; Tsutsui 1999; Albert and Thomas 2000; Martinez and Bunderson 2000; Nielsen 2000 A; Robson 2000). When using computers for foreign language education, it is important to be aware of the possible risks.

Levy (1997 A) has discussed the problems of Internet-based foreign language teaching comprehensively, from pedagogical, psychological, administrative and technical viewpoints. This section discusses the problems observed in Internet usage for language education according to the framework depicted in Figure 8. Firstly, the problems related to human nature are discussed, followed by those related to the availability of appropriate materials, to technical and to administrative aspects.

First and foremost, psychological resistance still exists, among both learners and teachers, to the use of the Internet for language learning and teaching. Insufficient IT literacy among teachers and students may be part of the problem. Also, computer-assisted language learning can be demanding to teachers in terms of time and energy. Teachers may require more time for preparation and more skills for class management than with conventional means of language teaching. Perception of the possibility of technical problems might also deter a teacher from exploring the Internet possibilities. Consequently, at current stage, not all language teachers are able to use the Internet for the purpose of delivering foreign language education, even if computers with access to the Internet are available.

Administrative problems may also be a factor. Computer system administrators might be reluctant to assist in computer use for subjects other than computing and/or technology. Language teachers may need to persuade an administrator, in order to acquire technical support. Issues such as security, budget and control of resource usage also need to be taken

into account.

Some problems have been pointed out relating to the designers of foreign language education WWW sites. Designers may have insufficient knowledge of learners' and teachers' needs and wants. Web site designers tend to focus on technical capability and often tend to place priority on the technological aspect rather than the pedagogical aspect.

Discerning attitude toward evaluating language teaching sites is important for all those involved in the creation and utilization of WWW sites for foreign language education. Yamamoto (1999) points out the necessity to be sensitive to the possible negative impact of Internet utilization in education. It is important to select quality sites. Ohso (1999) warns users of the possibility of coming across low quality materials when using the Internet.

Effectiveness of the materials, information volume, topics covered and technical capability available in WWW sites for language education have been discussed in preceding research (Levy 1997 A; Kawamura 1999; Tachibana 1999; Tsutsui 1999; Murphy 2000; Nielsen 2000 A). Problems have been pointed out regarding usability, including instruction and explanation. Practices on some sites are rather hard to understand due to insufficient explanation, or the fact that explanations are easy to miss because of the page structure and layout.

The volume of information available may need to be taken into account. At present, most language learning WWW sites contain less information than an average textbook. Depending on the purpose of the web site, the volume of information does not need to be large. However, it should be noted that some web sites are popular because of their design rather than because of the amount of information that is useful for language acquisition.

Many WWW sites for foreign language education employ audio and visual aids using multimedia. However, rather than assisting effective comprehension or practice, sound and graphics can diminish the language learning experience due to long download times cutting the learning stream.

A more comprehensive coverage of problems and risks in Web based Japanese teaching

will be given in Chapter 4. However, as it is clear from the account so far, many of the problems are of temporary nature, and can be removed via IT training and support, quality learning material provision and better network infrastructure.

2.3.3 Web resources available

A sampler of the Web resources available is given in Appendix 1. It does not even attempt to cover the resources comprehensively; rather, typical examples are given. For a comprehensive coverage of Web based resources for Japanese language teaching, refer to portal sites, given in Appendix 1.

Comparing to our previous review, conducted a year and a half ago (Tretiakov, 2000), sites became bigger, in particular, portal site are now more sophisticated, offering thematic searches etc. On the other hand, we are yet to see the emergence of sites, which would clearly dominate the market (such as yahoo and google for internet search or mp3.com for music file distribution).

2.4 *Overview of the study and its significance*

A variety of Japanese language learning web sites have been created and made available so far, and some experimental reports are now available on the use of Internet for language education. However, comprehensive comparison and classification of these web sites and their utilization have not yet been conducted. Moreover, with the variety of material and of Internet-based teaching techniques, there is a need to define the overall strategies, that can be used to approach the Internet-based language education in general and teaching of Japanese as a foreign language in particular.

Any technological innovation and any new educational strategy are associated with risks, not just benefits. To include Internet-based Japanese teaching in the curriculum, one needs to gain a good understanding of the risks and the ways to mitigate them. Only then the pursuit of the benefits can be regarded as justified.

2.4.1 The main strategies of Internet-based Japanese language teaching

Here we define the two main strategies, which, we believe, describe both current and future directions in Internet use for Japanese language teaching. By strategy we understand a combination of teaching approaches, such as audio-lingual, communicative, constructivist or other, tailored to achieve a certain educational objective and partially or fully implemented with the help of the Internet technology.

We use the term “strategy” or, occasionally, “model” because the terms “method” or “approach” are reserved to denote an educational philosophy, a belief based on more or less plausible “theory” and often aiming to be consistent or mission-fulfilling rather than practical (constructivist approach being a typical example). Our view is that in the real world teaching is and will always remain eclectic, with teachers applying different combinations of approaches depending on the situation and on their personal preferences.

At present stage, our choice is hypothetic and somewhat speculative. Justification will be given in the chapters to follow, based on a variety of data. We claim that there are two principal strategies:

- 1) Static
- 2) Dynamic

The choice of the terms “static” and “dynamic” is based on our belief in the limited capabilities of computers, as far as the processing of knowledge is concerned. At present, and in the foreseeable future, computers will not be able to create new knowledge or to understand human speech in any meaningful way. Thus any knowledge that computers can assess or present is necessarily static, it is the same knowledge that was put into the program by the program creator, or by other human agents, providing input to the program. Assessment or encouragement of any truly creative activity by the students, including any free-form communication or discourse, will require the presence of a (human) teacher. Computers on their own cannot deal with changing, developing, and thus dynamic knowledge.

Here are the detailed definitions of the two strategies.

2.4.1.1 Static

Students have access to CALL materials. CALL materials are structured in such a way that all interaction (which may be rather intelligent one) is between the program and a student. Students do not interact with each other. The teacher provides access and maintains the integrity of CALL materials (distributes/collects CDs, makes sure the network connection is up etc.). The teacher may also give recommendations on the use of CALL and assist students having problems with the system or with the language tasks. Furthermore, the teacher monitors the students' progress using CALL features, and delivers automated tests. Students are graded by the CALL program or with the CALL program help; the teacher's role is to insure that cheating and technical problems do not occur.

2.4.1.2 Dynamic

In addition to the activities described under the static model, students can interact with each other (perhaps remotely, over the network), with the teacher, and with interested native speakers (possibly, in their native countries, over a network). Interaction can be via Email, exchange of compositions, participation in discussion groups etc. (technology is constantly changing). The teacher's role is to monitor and mediate interaction, make sure that activities take place in the target language, correct mistakes, prevent and resolve conflicts, and encourage less active students. Also, the students are given tasks involving creative activities in the target language, such as writing reports based on information found on the World Wide Web (which provides the target language immersion medium), creating Web sites in the target language, writing fiction etc. (Kubota 1999). All creations by the students may be used later in interactive activities (discussions, contests etc.). Students' progress is judged by the teacher rather than by using automated tests. The teacher (or his/her associates) is responsible for maintaining the technical framework used in interactive and creative activities, and for helping students when they have either technical or content-related problems. The teacher's role is one of support, direction and encouragement, rather than control.

2.4.1.3 Comparison

The static model has advantages in that it imposes rather low requirements on the teacher's qualifications. In fact, even a person with no knowledge of the target language could

perform most of the important "teacher's" functions within the static model. A single teacher can service far more students than in the dynamic model. Another advantage is that the static model makes it very easy to maintain educational standards (it is sufficient to incorporate standards into CALL applications, no teacher re-training is necessary). Since computers are getting cheaper while qualified labor is likely to remain expensive, the static model is likely to offer much cheaper lessons than the dynamic model. Teaching according to the static model is likely to be more successful if combined with conventional language teaching.

The principal advantage of the dynamic model is that it leads to faster and better quality results. The learner feels much more confident, and is more likely to use the target language actively if need or opportunity arises. Also, along with language proficiency, learners acquire communication and word processing and general computer-related skills. Compared to conventional face-to-face learning, the demands on the teacher's skills, effort and time are much greater. Along with classical language teaching issues, the teacher needs to deal with technical and interpersonal problems. It is very likely that a single individual will not be able to cope, both in terms of time and in terms of skills required, and teaching will be conducted by a group of specialists.

One might recognize that the features of the "dynamical" model are very similar to the features of the constructivist approach to the use of Internet in language teaching, as outlined by a number of authors (Murphy 2000; Debski 1997). Indeed, in our recent publication (Tretiakov 2000) we used the terms "static" and "constructivist" rather than "static" and "dynamic". Our subsequent review of the literature available on the subject of constructivist teaching indicated that the overwhelming majority of authors regard the constructivist approach as a very clearly defined and pure alternative, that is, they talk about wholesale replacement of other approaches by the constructivist approach. As we did not regard purely constructivist teaching as a viable strategy for teaching Japanese with the help of the Internet (for reasons such as the already mentioned extremely steep learning curve), we decided to adopt a different term (namely "dynamic" strategy or model).

2.4.2 Significance of the study

It is our hope that this thesis may help to give clear notions on Japanese language learning on the Internet to both language teachers and learners. In particular, it will clarify the real choices available in choosing the teaching strategy, the tradeoffs and risks involved, and the ways to mitigate the risks. It may include useful practical hints and advice for language teachers in implementing Internet integrated language teaching, and for language learners, in the effective use of the Internet. This thesis may also give some useful information (about teachers' and learners' needs, wants and interests) to web site designers.

While in our extensive search of the literature we found a large number of publications, unreservedly advocating certain new technologies and approaches (namely, Internet-based teaching and constructivist language teaching), few authors adopted a balanced and realistic approach, taking into account all available choices and the possible risks. The present study is trying to fill this gap.

2.5 Objectives of the study

This thesis aims to achieve the following objectives:

1. To formulate the principal models of Internet utilization for Japanese language teaching, to investigate their features and to survey their acceptance by the learners.
2. To identify the main risks associated with the introduction of Internet-based Japanese teaching, and to consider ways to mitigate them.

Chapter 3. Teaching approaches and Internet usage models

Static and dynamic models/strategies of Internet based language teaching were introduced at the end of Chapter 2. This chapter will attempt to put a theoretical basis under the definition of models/strategies, formulated in Chapter 2.

As it was mentioned in Chapter 2, the principal distinction between the two models is the ability to incorporate constructivist teaching approaches in dynamical strategy, as the actively present competent teacher is able to facilitate and to assess knowledge construction by the students. In view of that, in subsequent sections we are going to consider the constructivist theory and constructivist teaching practice in some detail. Naturally, mainly we will be interested in the constructivist approach to second and foreign language teaching, particularly in the case of teaching Japanese.

3.1 Epistemology and ontology of constructivism

Although usually Piaget and Vygotsky are considered to be the founders of constructivism, there is no single person who could take credit for formulating the constructivist view of the world. Indeed, there is no single constructivist theory per se, but rather different researchers and education practitioners have fairly different interpretations (Phillips 2000).

Discussion of constructivist theory in general is further complicated by the fact that while constructivism as a theory was mainly promoted by educators; it is based on assumptions, which belong to the field of philosophy, rather than education theory. Namely, constructivism makes statements relevant to epistemology, the science, concerning itself with the origins of knowledge, and ontology, the branch of philosophy that deals with being.

As constructivist approaches to teaching found widespread acceptance and constructivism even acquired a certain political clout, to a degree that teaching, consistent with constructivist views may be considered “politically correct”, it was noticed by the philosophers. Recently, epistemological and ontological roots of constructivism came under a great deal of criticism (Howe and Phillips 2000; McCarty and Schwandt 2000;

Slezak 2000; Matthews 2000; Bredella 1999; Reinfried 2000). It is claimed that:

1. Constructivist theory is not original, but rather is a recap of philosophical views, known for a fairly long time (in particular, views of Kant and other philosophical idealists).
2. Constructivist views are not self-consistent, and thus do not constitute a well-formed theory. In particular paradoxes are apparent when constructivist theory is applied to itself (if knowledge can not transmitted, why constructivist writers bother to write in the first place?)
3. Constructivist views, if applied consistently, lead to ethical relativism and solipsism. Ethical relativism is the last thing most educators would like to instill in their students (as it justifies practices like racism or sexual discrimination).
4. Constructivist views are in sharp disagreement with the methodology of modern science (in particular, natural sciences).

In fact, if taken out of an educational context, constructivism turns out to be a fairly easy target. Thus, the conviction of (Murphy 2000) that, unlike a communicative approach to language learning, the constructivist approach to language learning has a strong theoretical basis, might be not justifiable. Taking into account the variety of interpretations available, we agree with Phillips (2000) that rather than being a well founded philosophical theory, constructivism is a system of beliefs regarding education, which continues the tradition of what used to be known as liberal education.

The objective of the current thesis is the practical one; we are trying to define the viable models of Internet application in Japanese language education. Hence, the fundamental validity of constructivism as a theory is not of a primary concern to us. Rather, it is important for us to take into account that constructivist practices were proven to be fairly effective in increasing student motivation and in promoting learning for understanding (Murphy 2000; Reinfried 2000; Martel 1999; Laroche and Bednarz 1998; Debski 1997). Constructivist teaching is increasingly applied in foreign language classrooms and there is and a growing consensus that constructivist teaching is highly appropriate when teaching

involves the use of the Internet as an instructional medium (Murphy 2000; Martel 1999; Debski 1997).

The relevance of constructivist practices to the teaching of Japanese as a foreign language with the use of the Internet will be discussed in some detail in the following sections. But first, we would like to provide an outline of basic constructivist beliefs.

While there is no universal consensus on how to classify constructivist views, most authors who are trying to describe constructivism as a theory agree that there are two kinds of constructivism, which do not agree with each other (and thus do not form a single consistent constructivist theory when taken in combination). One is rooted in the views of Piaget, we will follow Phillips (2000) in calling it “psychological constructivism”, and another - in the views of Vygotsky (“social constructivism”). We note that a number of authors use the term “radical constructivism”, meaning what we mean when we say “psychological constructivism”. Our preference of the term “psychological constructivism” is due to its relevance to the views it stands for. The term “radical” is quite misleading. In all likelihood, to educators with conservative views both “psychological” and “social” constructivism may appear fairly “radical”. In fact, on one occasion, we did encounter the combination “radical social constructivism” (Slezak 2000).

The following descriptions (in 3.1.1 and 3.1.2) of psychological and social constructivism are based on information, gained from Phillips (2000), Howe and Phillips (2000), McCarty and Schwandt (2000), Reinfried (2000), Larochelle and Bednarz (1998) and others.

3.1.1 Psychological constructivism

Knowledge does not exist in any other way but in the head of an individual learner. Knowledge cannot be transferred from one person to another, but rather is constructed by each individual learner on the basis of his sensory input. In fact, although different learners may use the same linguistic formulations to express what they have learned, their deep understandings may be quite different. Thus, the nature of knowledge is inherently deeply individual. Any conceptual schemas have no existence of their own (as positivism would suggest), but have meaning only in context of the individual’s experiences. Thus, there is

no rigid boundary between the external world and the humans' construction of it. As individual knowers can construct truth that needs no corroboration from outside the knower, any number of "truths" may exist, and are justified to exist.

Psychological constructivism puts a high value on the consistency of mental constructs. A newly constructed mental concept or theory is incorporated into the person's body of knowledge if it is consistent with the rest of the knowledge, which is already there.

New experiences sometimes lead to contradictions to the present understanding of the learner, making them insufficient and thus perturbing and disequilibrating the overall structure. The equilibrium is achieved via the process of accommodation, in which the individual's mental constructs are adjusted to integrate and to reflect the new sensory input. Thus, the function of cognition is adaptive, in the biological sense of the term, and evolution of ideas is akin to the evolution of species in Darwinism. Cognition serves the learner's organization of the world he experiences, not the discovery of the independently existing ontological reality. The constructivist view of knowledge is essentially instrumentalist. The knowledge is good if and when it is instrumental in achieving our goals.

The construction of knowledge is an active process, which has little in common with the transmission process, such as the one, taking place when magnetic tapes are dubbed.

In a (psychological) constructivist world, a knower is fairly lonely, as the only way he can ascribe mental states to another person is by analogy with himself.

3.1.2 Social constructivism

Knowledge exists within a society, the collectivity to which the individual knowers belong. Knowledge is constructed as meanings are negotiated in a continuous dialog within a society. Language plays an important role, both as a means of meaning negotiation, and as a medium in which negotiated meanings are recorded. Language entities are enduring even as the experiential world is subject to constant fluctuation.

Any means to rationally evaluate beliefs are completely reliant on the language game, played within the collective. Hence, the meanings obtained within different societies are incommensurable. Knowledge is a temporary location in dialogic space. A person can generate dialogue because he/she is accorded the status of knowledgeable within the group.

Both “knowledge” and “truth” are essentially beliefs: “knowledge” stands for beliefs for which deviance is not permitted, “truth” - for beliefs, commendable within the community.

The dialogue unfolds continuously without a fixed goal (as there is no external verification, that would fix the meanings as correct).

Thus, the goal of knowledge is again the survival, but while in psychological constructivism it is the biological survival, in social constructivism it is a social survival (or fit). Knowledge is highly dependent on sociopolitical factors present in the community.

3.2 *Constructivist pedagogy*

From the descriptions in the previous section, it should be clear that psychological constructivism and social constructivism are quite distinct, and different from each other. Yet, in most of the educational literature no distinction is made, and implications of both to the educational process recommended are given simultaneously. Here, we follow this tradition, and do not always qualify constructivist educational techniques as ones stemming from "psychological" or "social" brands of constructivism.

We also note that constructivist pedagogical techniques often do not require recognition of constructivist epistemology of any sort, and, case by case, can be justified on a different basis (Phillips 2000). Still, the apparent relationship to psychological or social constructivism unifies them, and, in literature, references to Piaget, Vygotsky or their followers are often given.

Constructivist learning theory takes as its starting point the knowledge, attitudes and interest students possess already. Learning happens when students engaged in learning activities construct their knowledge based on the mental constructs they already possess.

Thus, the purpose of the instruction process is to provide experiences that match the existing knowledge in such a way, that students are able to construct on its basis, and ultimately, to enhance it. Teachers should avoid talking about student's misconceptions, which are to be replaced by correct concepts. Rather, students are to be encouraged to produce their own concepts, accommodating the experiential environment they are put in.

Thus, the role of the teacher is both easier than in traditional ("instructivist") teaching, based on the concept of knowledge transmission from a teacher-expert, since some of the work is done now by the students, and, at the same time, the teacher's role is much more difficult as the teacher must somehow know a great deal about the student's background and must deal with students on individual basis. Judging by the literature available, most teachers seem to agree that constructivist teaching requires more effort than instructivist teaching, but is more rewarding in terms of job satisfaction (Murphy 2000; Debski 1997).

While psychological constructivism suggests that individual differences are to be catered for, social constructivism stresses the necessity of communication among students and between students and the teacher, and suggests that activities are better accomplished in groups. The classroom is seen as a community of discourse engaged in activity, reflection, and conversation. One can present conceptual schemes to the students ("lecture" them), but it should be part of the dialog, and conceptual schemes presented should not be perceived as "final truth", but rather are to be discussed by the students who are participating in the dialogue on an equal footing with the teacher. The student should be aware that any contextual schemes are only valid within the context of history and culture, and are not impervious to challenge.

Criticism by students is to be invited, but the role of the teacher is to make sure that any criticism occurs only against the background of shared meanings, being constructed in the classroom. Only a few of the conceptual constructs are to be criticized at a time, otherwise the teaching process breaks down into chaos.

Constructivism suggests a holistic view of teaching. Boundaries between subjects in the curriculum are to be made less clear, and discussions are not to be limited by artificial boundaries. Individual or group constructs are to be allowed to follow their internal

dynamics. Thus, to a degree, students themselves determine what they study, and thus become partially responsible for the curriculum. Holistic experience prepares students to “real life” situations, as a real life problem usually cannot be cleanly covered by a single subject matter. Rather, real life problems are rather “dirty” and require a degree of competence in a wide range of disciplines.

As it is apparent from the discussion so far, a constructivist classroom is prone to uncertainty as each student or group of students starts with different mental constructs, generally follows a different course, and reaches a different level of understanding. Thus, a teacher applying a constructivist technique has to be able to deal with uncertainty, and, possibly, even controversy.

In psychological constructivist learning, the learning is achieved via individual problem solving. Carefully selected problems create situations where explanations can be achieved only by adjusting the student’s internal understanding of the subject.

A social constructivist teacher is to enable students to participate in a range of discussions, and to enable each student to take an active part in the discussions. This is achieved best in collaborative learning, working in relatively small groups. Learning is to be pragmatically contextualized, that is, structured around practical issues and problems, which initiates the discussions and keeps them focused. In other words, learning occurs in context.

The goal of constructivist learning is understanding, as opposed to the “instructivist”, particularly, behaviorist learning, which is mainly centered on acquisition of factual information or acquiring skills. Thus, lessons are to be structured around concepts and ideas, not facts and skills.

Learners are intrinsically motivated to learn and the understanding is a reward in itself. External reward, in terms of assessment or otherwise, does not play an important role.

In constructivist learning the teacher is a coordinator, facilitator, resource advisor, but not necessarily an expert. Effectively, the teacher participates in the process almost on an equal footing with the students, and learns him/herself. This is often described as abandoning the

role of a “sage on a stage” (as in “instructivist” learning) and taking the role of a “guide on the side” (Murphy 2000). The teacher is to be prepared for situations when he is not able to answer questions or solve problems. Student’s expectations are also to be adjusted.

Constructivist learning might achieve a better end product in terms of understanding and creative attitude. A price to pay is time. It does take time for the students to build their internal constructions. One might argue, that “instructivist” learning might proceed much faster, by feeding students facts, but it is likely to achieve less in the long term, as without understanding students are most likely to forget everything once the assessment is finalized. Understanding takes a longer time to achieve, but it stays with the student forever, and might be relevant to dealing with problems in subjects quite different from the one that was taught.

Larochelle and Bednarz (1998) gives the following advise for creating constructivist-based classrooms (our interpretation of how the advice can be implemented in Japanese language classroom is given in brackets):

- Use raw data and primary sources, along with manipulative, interactive, and physical materials. (In the context of teaching Japanese as a foreign language with the help of the Internet, one could use Web sites with authentic material, which allow navigation and search, and which contain interactive multimedia features, allowing students to achieve different views of the site in a language-relevant way).

- When framing tasks, use cognitive terminology, such as classify, analyze, predict, create, and so on. (Give students a task, which would boil down to classifying or analyzing information on a Japanese language Web site. Initiate a project to create a Web site in the target language.)

- Allow students to think to drive lessons. Shift instructional strategies or alter content based on student responses. (Divide students into small groups and allow them to discuss the project, in Japanese. Be open to students’ suggestion on adjusting the project’s goals and let them decide how to achieve those goals.)

-
- Inquire about students' understanding of concepts before sharing your own understanding of those concepts. (Let students describe the information they gained from Japanese web sites, in particular, information relating to the language. If you do not agree with their findings, present your point of view last, so that students are not deterred from presenting theirs.)

 - Seek elaboration of students' initial responses. (Involve students in a dialog, ask short questions, requiring responses other than yes and know, encourage discussion between students.)

 - Engage students in experiences that might engender contradictions to students' initial hypotheses and then encourage a discussion. (If students make language-related or other mistake, expose them to material, which would be in contradiction with their assumptions.)

 - Provide time for students to construct relationships and create metaphors.

Considering the fluid nature of a constructivist classroom, the importance of communication between the teacher and individual students, between students in small groups with, possibly, changing composition, and the need to keep students comfortable and outgoing (rather than calm and concentrated on the teacher's delivery, as in classical "instructivist" education), some authors suggest that even the furniture in the classroom, or, if possible, even the architecture of a school building, are to be changed to accommodate the constructivist teaching style (Debski 1997). Instead of the static rows of desks, movable tables are to be provided, which can be stacked together to accommodate groups of changing size. Computers, ideally, should be in the form of laptops, so that they could be easily moved around. Facilities for presentations, such as whiteboards and an overhead projector, should be available to accommodate the demand of groups, preparing or delivering presentations on their projects. The building, correspondingly, is to offer rich context for students' explorations, featuring semi-separated locations, so that each group has enough privacy to go about their projects without too much interruption, while still maintaining contact with other groups. Books, rather than located in a separate library, are to be on shelves in the same space where discussions happen, providing part of the context, conducive to knowledge construction.

To wrap up the section on constructivist teaching and learning, let us consider, from a practitioner's point of view, is it possible to realize the constructivist vision of teaching in its purity and entirety, as constructivist epistemology seems to suggest. Here, positions taken by different authors differ. Some take a messianic attitude and talk about a wholesale replacement of "inferior", "instructivist" approaches to learning (Murphy 2000; Debski 1997). Others take a realistic view, and, while admitting that constructivist teaching is sometimes highly effective, point out that there are situations when some transition of knowledge has to take place (Reinfried 2000). As it was already mentioned in Chapter 2, we are firmly in the second camp.

In our view, for beginners of Japanese the wholly constructivist approach to teaching is just impossible as there are too many things to memorize (such as katakana and hiragana). We admit that elements of constructivist teaching can be applied even for rote memorization, as students may be induced to construct mnemonics (Merten 1999). We just do not see a constructivist approach which would cover all of the beginner's learning and achieve results in a reasonable time. At an advanced level, a purely constructivist approach might be possible. A wholesale transition to constructivist teaching is still not to be recommended in most circumstances as the associated risks are likely to be too high. Rather, a staged approach is likely to be the best solution for most institutions. Risks associated with constructivist teaching as a part of the dynamic model of Internet use in Japanese language education are to be discussed in subsequent chapters.

3.3 *Constructivism in second/foreign language education*

Here, we deal with the application of constructivist theory in foreign language education. We highlight the importance of language in constructivist theory in general, then we describe the role of constructivism in the language learning research, inspired by Chomsky's universal grammars, and, finally, we review the vision of constructivist language teaching.

3.3.1 The role of language in basic constructivist theory

Language plays an important role in basic constructivist theory, in particular in social

constructivism. Essentially, most of the material, allowing individual or group constructions to take their shape is provided by language. Language penetrates so deeply in what we call “reality” that it is impossible to separate them in any meaningful way.

In social constructivism, construction proceeds via 'language games' between the participants of the collective (McCarty and Schwandt 2000; Slezak 2000). Language is a means of communication between the members of the collective, which leads to the construction of knowledge. Language creates independent and enduring entities in the fluctuating experiential world. Knowledge or meaning itself is a form of participation in language games. All problems, topics, and distinctions are language-relative, associated with a certain choice of vocabulary or a certain language game.

It is interesting to note that whether one recognizes social constructivism as a valid theory or not, one can clearly recognize that constructivism has created a language game of its own. Some of the constructivist literature is extremely difficult to decipher, which is mocked in Matthews (2000), where “translations” into plain English of some constructivist passages is provided (somehow, plain English versions turn out to be much shorter, than “constructivist-speak”). In fact, one can more or less clearly divide the literature on constructivist education into two categories: the one written from practical point of view and giving very sensible reports and recommendations, and the one written in constructivist-speak, which supposedly creates a language environment in which the author’s arguments or approaches can not be defeated or criticized (or understood by most mere mortals, for that matter).

3.3.2 Constructivism and the theory of foreign/second language learning

Constructivist theory was applied in the area of foreign/second language learning research fairly early, in connection with the Chomsky’s theory of universal grammars (Littlewood 1984). It should be noted that it did not lead to the introduction of full-blown constructivist education practices, in a sense of the ones described in Section 3.2; rather, it has led to the introduction of communicative teaching approach, and to the partial abandonment of audio-lingual method.

Before the theory of universal grammars, the dominating theory of language teaching was based on behaviorism. It stated that a child makes utterances, mimicking the sounds it hears, some of which are the sounds of speech. When the child's utterances reproduce some elements of adult speech, adults show signs of approval, which serve as positive reinforcement. A reflex is formed, and next time the child is more likely to produce correct speech. Thus, the important elements here are the presence of a linguistic input to mimic, and the positive (or, possibly, negative) reinforcement.

Second/foreign language learning was regarded in a similar way. In the second/foreign language classroom, behaviorist views have found an expression in the form of the audio-lingual method, which married behaviorist views with the application of new (at the time) technology. The teacher or a tape recorder (later, possibly TV or video) provided input. (The main advantage of using technology was that it could provide perfect speech by native speakers, which is not always within the teacher's capabilities.) Students would mimic the input. In a more complex setting, problems are given in terms of speech patterns, and students are to recognize the patterns and to transform them in a correct way. The teacher's role is to provide positive (or negative) reinforcement, via comments, corrections, and, at the end of the day, formal assessment. Students are supposed to acquire a reflex, an ability of automatic correct response in carefully chosen language situations. As students are mimicking what they hear, it is considered to be very important that in no circumstances students are exposed to incorrect language - otherwise, wrong reflexes can be formed, and errors fossilized. Fossilized errors are difficult to correct. Hence, students were not encouraged to talk to each other in the target language and all utterances in the class are to be scrutinized by the teacher. Apart from the use of technology, the difference between the audio-lingual method from the direct and grammar-translation methods, which precede it, is in its reliance on reflexive, unconscious command of grammar, rather than on conscious, theoretical study of grammar rules. The similarity is in the overwhelmingly central role of the teacher, and in intolerance of errors of any sort.

Chomsky argued that all humans have an inborn ability to acquire languages (Littlewood 1984; Asudeh 1997). (That is why all languages have common linguistic features, "universal grammar".) As a child already possesses some sort of language ability, it can make extremely fast progress when learning a language. Rather than mimicking patterns in

a mechanical fashion, a language learner implements the universal grammar by using the language input available. Here the constructivist theory kicks in: the learner applies his in-born ability to construct the language from whatever material may be available. The role of the learner is fairly active, and the construction process proceeds whether the learner makes any utterances in the target language or not (this consideration has led to the birth of the highly effective silent approach). The construction is more akin to reflection of a scholar or an artist, than to a military drill, as behaviorist theory suggests. In subsequent research it was found that all learners go through similar steps when pursuing the construction process. In particular, they form intermediate grammars (also known as "interlanguage grammars") by systematically making mistakes such as overgeneralization (applying a rule without exceptions). In terms of intermediate grammars, those mistakes are not mistakes, but, rather, are the consequence of the fact that intermediate grammars are different from the correct grammar of the target language. Intermediate grammars evolve as language acquisition process proceeds, and converge to the correct grammar of the target language.

It should be noted that while constructivist theory might be failing as a "theory of everything" (general epistemology and ontology), in application to language it is far more convincing as language is clearly a human construction, at one level or another.

As Chomsky's views became widely accepted, they had a profound impact on how the teaching of second and foreign languages was conducted. The audio-lingual method has lost a lot of ground and has been replaced by different variations of communicative language teaching. In communicative language teaching, the teacher provides an environment, which would facilitate the language construction process. This is achieved mainly by involving students in communicative activities in the target language. Students are allowed much more freedom than in preceding approaches, and, most importantly, they are allowed to make mistakes (to form intermediate grammars). The teacher would correct some mistakes, to make sure that intermediate grammar evolve in the right direction, and ignore others, as correcting all mistakes would make it difficult for the students to form an intermediate grammar, and, more importantly, it would most likely make it impossible for the students to meaningfully communicate with each other or with the teacher him/herself. This relative tolerance of mistakes distinguishes communicative language teaching from all

preceding approaches.

One should note that communicative language teaching is much more difficult to automate than the audio-lingual method. In the case of the audio-lingual method, exercises are well defined and the answers are known in advance. Hence, the knowledge is static and can be encoded in a computer program. In fact, a computer can arguably be a better drillmaster than a real teacher. It never gets tired or irritated, never makes mistakes, is available any time, is cheaper, and provides reliable and unbiased assessment. As technology, such as speech recognition techniques, develops, computers are going to become more and more viable teacher replacements as far as the implementation of the audio-lingual approach is concerned. For communicative teaching, computers can provide a very important tool as a communication medium, such as Email, discussion groups, instant messaging, Internet-based telephony, video-conferencing etc. Yet, to take control over the process (or responsibility for facilitating it), one needs to be able to understand the natural human speech; in other words, one has to be a human teacher.

As an illustration of how a change in a teaching approach may introduce some new problems, one may point to the problem of "fossilization". Some features of the interlanguage may be retained by the students practicing communicative language learning even as otherwise they attain a fairly high level of fluency. Then, the only solution is resorting to drills or to spelling out specific grammar rules.

If constructivist views were involved in the paradigm shift, which brought about the communicative language teaching, is communicative language teaching the same as constructivist language teaching? The answer is not quite. Communicative language teaching did give more autonomy to the student than all of the preceding approaches, and its reliance on communication between students is very much in line with constructivist education beliefs. Still, it does not nearly go far enough in a holistic approach to education, project based teaching and in allowing students to take some of the responsibility as far as determining the curriculum is concerned. Historically, communicative language teaching appeared earlier than constructivist education experiments in fields like natural sciences. At present, there are far more reports on constructivist teaching in sciences and math, than on constructivist teaching in foreign/second language field. Thus, in sciences, constructivist

education was introduced later, but it went much further, as full range of constructivist educational views was implemented (which is a bit of a paradox, as, at least in our view, constructivism is more appropriate in the field of language than in sciences). At present, there is a prevailing view among constructivist language educators, that the advent of the Internet will lead to a full implementation of constructivist education vision in a foreign/second language classroom (Murphy 2000; Martel 1999; Debski 1997).

3.4 *Constructivist language teaching and the Internet*

The principles of constructivist foreign language teaching were formulated (Reinfried 2000) as follows:

Principles of constructivist foreign language teaching

- Action-orientedness

cooperative learning

creative forms of classroom work

learning by projects

LBT - learning by teaching

- Learner-centeredness

individualization of learning

autonomy of learner

- Holistic language experience

content-orientedness

authentic and complex learning environment

Reinfried (2000) provides a summary of constructivist language-teaching techniques mainly based on a number of publications by Wolf and Wendt (see references in Reinfried, 2000). Here, we recap it without trying to separate general features of constructivist education from language-specific applications.

Learning is a process, which is highly subjective, autonomous and active. Constructivist language learning suggests an action-oriented methodology, including cooperative learning, defined as social forms of learning such as work with partners or in groups, active and creative forms of work as well as teaching by projects. The learning by teaching approach is also advocated, which encourages the pupil to take over the teacher's role. In particular, inter-cultural projects are recommended, as well as writing and printing of the pupil's own texts. Generally, individualizing and cooperative forms of learning are to be fused. The individualization of learning is one of the most important features of constructivist foreign language teaching (FLT). Teaching can only influence learning in a very restricted way. The individual learner should be allowed to choose his own selection from exercises and text presented to him/her. However, the learner is to be instructed on how to become aware of his/her own learning approach.

The holistic language approach is considered to be an important feature of constructivist FLT. It is related to content-oriented FLT, which generally takes place in project-based instruction. Foreign language acquisition is to take place in authentic and complex learning environments. Authentic contacts with foreign language and culture have crucial relevance; e.g., authentic fiction and movies offer a learner an opportunity to be exposed to foreign culture and to negotiate its meaning with the group of other learners.

Reinfried (2000) notes that the principles described above have been known for a while, and the role of the constructivist approach to FLT is not as much in inventing them, but rather in assembling them all under a common "constructivist roof". Thus, as we can see, the role of the controversial constructivist epistemology (even as it is often referred to) is quite non-controversial, the one of providing a name for an array of proven liberal education techniques, which fit well together. One should also note, that as constructivist epistemology is being applied in education, the difference (quite a significant one) between psychological and social constructivism tends to disappear.

So, if the constructivist approach to education has been known for a while and some features of the constructivist education are already incorporated in the widely used communicative language teaching method, why are we starting to talk about constructivist FLT now, in the beginning of the 21st century? The answer is because it provides a way to

make sense of the pervasive computer networking technology.

As it was already outlined in Chapter 2, the Internet makes distances irrelevant and provides a capability to get exposure to foreign language and culture at, essentially, no cost. While there is a lot of talk about the Internet, the technology is still rather young and bulky. At present, certain efforts are required to gain access: one needs to have a wired lab, which is expensive (or troublesome to gain access to). Bandwidth is not really sufficient, so downloads are slow, and all sort of trouble is happening with computers and networks, and certainly most language teachers are already busy enough to deal with all that. Risk and hurdles surrounding the use of the Internet for language teaching in the present environment will be tackled in subsequent chapters. But as one considers the present technology trends, such as growth of wireless access (www.palowireless.com) and the development of remote administration approaches (when network administration is outsourced and done by an external entity via network itself, see Boardman 2000), the vision of the classroom of the future is quite clear. In a Japanese language classroom, a teacher will be dealing with students, carrying a device, allowing access to untold quantities of textual, audio and visual material in the Japanese language, and essentially, to everything being published in Japanese (although some of it might be only available at a very small price, paid via micropayments, see Nielsen 2000 A), plus, it would include any material any Japanese teenager would care to put on-line. The device would offer a potential to contact almost any of the Japanese speakers on the face of the Earth and to communicate with them in synchronous or asynchronous mode, using text, sound and video, free of charge. The devices would not require any more hassle to use than the present day mobile phones do. It should be stressed that the capability is already there and we are talking about a fairly near future. Will teachers be able to ignore the capability and teach as they do now, using printed textbooks and occasional tapes? Most probably not. Some teachers (technophiles, using the terminology of Martel, 1999) would be happy to use the opportunity, others (technophobes) will be reluctant, but there will be pressure from the students, and it is likely that there will be pressure from the management as infrastructure investment has to be justified and competitive teaching programs are to be provided.

A student of tomorrow will have an unlimited capability to access textual, audio and, in all

probability, video material in the target language, free of charge. Plus, he/she will be able to get in contact with numerous native speakers and other learners, again, effectively, free of charge. (A student of today, who can be bothered to get connected via a decent Internet provider, already has these capabilities to a large degree.) How can a teacher tap into this potential to use it for foreign language teaching? A number of authors believe that the answer is the constructivist language teaching with the use of Internet (Debski 1997; Jonassen et al. 1999; Wiburg et al. 1999; Murphy 2000). One way to demonstrate it is by considering the principles of constructivist foreign language teaching, introduced in the beginning of this subsection.

Action - orientedness

- Cooperative learning-The Internet provides capabilities for synchronous and asynchronous communications; thus, cooperative learning can be achieved by groups of learners who do not need to be physically in the same location.
- Creative forms of classroom work - Motivation of students is enhanced as they are able to publish the results of textual graphical work, and other types of presentations on the Internet. Subsequent Internet - based discussions further enhance learning possibilities.
- Learning by projects - The Internet provides an almost unlimited amount of authentic information to be used in project-based work. The information is current and constantly changing; thus, new material is always available.
- Learning by teaching - Active participants in discussion groups are assuming teaching roles when they elaborate on subjects they are familiar with.

Learner - centeredness

- Individualization of learning - Both in searching for information and in creating their own (language-related) multimedia objects, the variety of options available is extremely high; thus, the interests of individual learners are accommodated most naturally.

- Autonomy of learner - In accessing the Internet, each learner operates autonomously by the nature of the interaction. The control of individuals accessing Internet is technically unfeasible (or very difficult); thus, the learner is autonomous.

Holistic language experience

- Content-orientedness - Internet-based tasks and projects are more naturally formulated in terms of content than in terms of grammatical phenomena or otherwise.

- Authentic and complex learning environment - The Internet more than any other learning system is able to provide an authentic and complex learning environment; authentic materials, which are constantly changed and updated, the possibility of contact with native speakers, different types of language (as far more people write on the Internet than write books), communication with other learners etc.

As we can see, Internet allows a realization of the principles of constructivist language teaching in a most natural way. Does the constructivist approach allow the realization of all the capabilities of the Internet, as far as language teaching is concerned? Our answer is, yes, in a limited sense. The constructivist approach does cover the capabilities of the “wild” Internet. But, if Intelligent Tutoring Systems are to be deployed, the Internet may be used in delivering “instructivist” type of language education. This use of the Internet is discussed in the following section.

3.5 *On the relevance of static CALL*

Language teaching with the use of computers is not a new idea. CALL programs existed for more than 20 years. Yet, they failed to make a major impact in mainstream language teaching.

The fundamental reason behind the relatively minor success of CALL programs lies in the limited abilities of modern computers as far as AI (artificial intelligence) is concerned, which can be best explained in terms of the Turing AI test (Copeland 1993). If a human communicates using natural language with an external entity via a computer interface (say,

using text messaging), he/she can always tell, whether the entity is another human or a computer program. In other words, modern AI systems are not adequate enough to substitute for a human being in reasoning and language-based interaction. Moreover, the nature of live human languages is such that they cannot be adequately described with a finite set of grammar rules, or, at least, so far no one succeeded in doing it (Asudeh, 1997). Thus, in a general case, the computer is unable to distinguish if a passage is grammatically correct (although there are programs which can determine parts of text, which are likely to have errors, still, ultimately, a human judgment is required.)

In general, a natural language processing program has to be static. It relies on (unchanged, static) solutions pre-recorded by a human, while natural speech has a capacity to present problems that are not covered by the pre-recorded solution. Thus, in CALL programs, learner input has to be scaffolded somehow, the most common type of scaffolding being multiple - choice questions. Hence, learner creativity is not allowed, and true constructivist (or communicative, for that matter) foreign language teaching is not possible with machines only.

In view of the limitation described above, there is an opinion (Murphy 2000; Debski 1997) that classical CALL-type teaching programs are going to be phased out in favor of a constructivist use of computers and the Internet, in which the computer is downgraded to the role of a mere storage and communication tool (albeit, a very powerful and sophisticated one). Yet, classical CALL-type systems have certain advantages, which should not be overlooked.

1) Static CALL programs can, potentially, be very cheap (they not necessarily are, but there is no underlying reason for them not to be - it is a matter of how many people use them, as duplication or Internet hosting do not add much to the production costs). Constructivist teaching is bound to be expensive as qualified teachers are required.

2) CALL programs can provide a consistent quality service. As we all know, teachers are not the same in terms of skills, motivation (or wiliness to work in remote areas). The same quality CALL program, designed by the best specialists in the world, can be made available to everyone, exactly in the same form.

3) An Internet - based CALL program can be accessed from anywhere, any time, without any loss of quality (for as long as technical issues are worked out). Constructivist teaching can be provided remotely, via the Internet, but the resulting product is quite different from the situation when a teacher is present in person.

4) CALL programs are impartial when used for assessment purposes, and can be connected via network into a unified information system. Assessment via CALL would guarantee the same treatment for all learners; the result of the assessment can be given immediately, both to the learners and to the organization, overseeing the assessment process.

We believe that at the end of the day static CALL programs would be used by most educators to differing degrees, if they were available without much hassle, such as the necessity to book laboratory slots, keep control of CD stock, and to resolve various technical issues. In the vision of the interconnected world, presented in preceding sections, to instruct students to use a CALL program, all the teacher has to do is to write the program address (universal resource locator, URL) on the white board (technophiles might also consider sending a link by Email, or posting it on the paper's Web site). The program itself would be created and deployed on the Internet by an international corporation with expertise in the field, a fairly small fee being charged via micropayments (a CALL course would cost much less than a textbook, as access is massive, from all over the world, and no manufacturing process is involved.) Again, we are almost there, as prototype CALL courses in French and Spanish are being offered by Microsoft via Internet (encarta.com/languages).

We considered possibilities for continued classical CALL usage. Now, we would like to outline the emerging technologies, which are likely to enhance the capabilities of CALL programs.

3.6 *Static CALL and language technology*

Most classical CALL programs offer the learner a collection of interlinked information units and problems. The program would check the learner's answers and inform him/her of

mistakes. Sometimes, choices offered to the learner depend on his/her performance. Performance statistics and the learner's progress would usually be collected and displayed to the learner (and, possibly, teacher) on his request. The most common types of problems are multiple choice or fill-in the blank questions. Sometimes, questions are given with the use of multimedia features, rather than as text (the most important case being problems, that are read out, rather than shown on the screen).

Language technology (LT) refers to computer-based techniques, allowing the process of natural human language. Typical examples of LT are spelling and grammar checkers, machine translation tools, tools for speech recognition and synthesis.

Language technology has limitations. As described in the previous section, a program cannot really "understand" natural human speech. Yet, in some specialist areas LT can provide fairly reliable service.

Historically, CALL did not rely on language technology, but rather on approaches with very strong scaffolding, such as multiple-choice questions (as outlined in the first paragraph of this section). The recent trend is an increasing use of LT in CALL systems. Commercial products are available; our budget, obviously, did not allow us to sample them. The present review is based on recent publication available in the public domain.

We were able to determine 3 areas of LT use for CALL

- 1) Speech synthesis (used for dictation practice)
- 2) Speech recognition (used for pronunciation practice)
- 3) Lemmatization (produces a list of words with translations for a given text)

The review to follow is mainly based on information gained from the Language and Language Technology collection (edited by Jager et. al., appeared in 1998, published by Swets & Zeitlinger).

3.6.1 Speech synthesis

The system converts textual information into speech (essentially, reads the text aloud). In a CALL setting, it could be used to teach pronunciation, or for dictation drills. When the program reads out some text, the learner types it as he/she hears it and the result is compared to the original text, and errors conveyed to the learner.

We sampled the Readplease speech synthesis program (which is available for free trial at www.readplease.com). Subjectively, the result is rather good; although, of course, one can easily distinguish computer-generated speech from the real one. We are not aware of any standard way to express the goodness of fit numerically, or to determine whether certain speech generation programs can be used for language teaching.

3.6.2 Speech recognition

Early systems allowed learner's speech to be shown visually, as a waveform graph, which the learner could compare with a similar graph, obtained from a native speaker. Of course, in this case, the learner had to pronounce some text, known in advance (as the native speaker; waveform had to be pre-recorded).

The state of the art system actually recognizes the words spoken, then compares them to synthesized waveforms for the same words, and notifies the learner if any mistakes are found. Thus, the system is supposed to be able to work with a free input. (The system is still unable to understand the meaning of what is said, only pronunciation is analyzed.) We did not find any data on how reliable the system is (say, it would be interesting to know, how often does it try to "correct" a native speaker.)

3.6.3 Lemmatization

Lemmatization allows the extraction of the word "lemma", the part that determines the word's identity. The lemmatization program allows the words available in a text sample to be listed, and, in combination with an electronic dictionary, produces a list of words with their translation.

Potentially, it can be used to support reading practice. For Japanese, a free program is

available (Yamamoto 1999). For technical reasons, we did not have an opportunity to test it. As the program is not able to reliably determine the context, in which the word is used, it is likely that the quality of the word list is not as high as the one that could be produced by human translator.

3.7 Two models of Internet use for Japanese language teaching

Now, we are in a position to revisit our definition of the main strategies/models of Internet use for Japanese language teaching.

As it was already stated a number of times, we believe that most teachers are going to take a practical approach, and very few will pursue a certain pure approach to language teaching (such as the constructivist approach). Rather, a mix of approaches will be taken, depending on the student's needs, availability of resources, and personal style.

As static CALL type materials are increasingly available over Internet, we expect that more or less all teachers will use them to different degrees. The use of static CALL materials may supplement the main course, it may occupy lesson slots, may be given as homework, or it may be given to students with specific problems, such as fossilized grammatical errors. Because authentic Internet materials are going to be increasingly available in increasingly attractive forms, we also expect most teachers to make use of them by giving students individual or group projects, in the spirit of constructivist teaching. As Japanese offers a very steep learning curve, for Japanese classes we would expect that “constructivist” use of Internet-based authentic materials will be mainly limited to teaching at relatively advanced level. Still, even at beginners level, Internet-based authentic materials will be used to increase motivation and establish long-term learning goals. We call this sort of Internet usage model (or strategy) a dynamic strategy, as it potentially allows a creative language use and communication, and thus deals with dynamic knowledge. Dynamic model is not the same as constructivist approach to language teaching, as it allows the uses of static CALL materials. The term dynamic is borrowed from publications, which use it in similar contexts (such as Martel 1999, although, to the best of our knowledge, nobody used it exactly in the same sense as the definition, given in the current paragraph or at the end of the Chapter 2).

An alternative to dynamic model is static model of the Internet usage, in which the use of the Internet is limited to static CALL. This model may be preferable for economic reasons and for the reasons of limited availability of skilled teaching personnel. In static CALL model the teacher is still present (as CALL program by itself cannot prevent cheating at assessment time), but the teacher's role is mainly technical and administrative one. Static CALL will rely on very high quality materials available at a low price. In the "real world", we expect that if the teaching program is not a distance one, teacher would give some classes without the use of computer, but would heavily rely on CALL. As in case of the static strategy there is more emphasis on class management than on language competency, it is likely to be used in situations when a teacher has to teach a class as a "second subject".

When using static CALL materials within a program, which is essentially dynamic, the materials are often distributed to the students for use at home, to make space for student - teacher interaction in the classroom. I participated in the creation of a number of Japanese language teaching materials, which are currently being used in this manner at the Massey University (Palmerston North, New Zealand) (Knight, 2000).

3.8 Popularity of Japanese language, prevalence of different teaching approaches and popularity of on-line learning: comparative evaluation for a number of languages by structured Internet queries

Structured Internet queries technique itself and the research we conducted are described in detail in Appendix 2. Here we only state the main conclusions.

Japanese language popularity was behind all "first-world" languages (English, French, German and Spanish), but not with a big margin, and was closely followed by Chinese.

While communicative language learning is prevalent, constructivist language teaching is clearly present and more popular than audio-lingual language teaching. This observation was valid for all languages considered. Still, at present, communicative language learning is overwhelmingly prevalent (by about an order of magnitude for most languages.)

Japanese is behind English, which is behind French, German and Spanish as far as the

popularity of online language learning is concerned. This result justifies using French to learn about using Internet in language teaching, in case of French the on-line language teaching seems to be most advanced.

3.9 Student acceptance of Internet use for foreign language teaching - a survey

Here we briefly describe the results of a survey, conducted to investigate the perceptions of foreign/second language learners as to the use of the Internet in foreign language teaching. Detailed survey results are discussed in Appendix 3, which also describes the survey subjects and the instrument used. Here we only present a brief summary of the main results.

The survey subjects were not limited to learners of Japanese, all of them had an experience in learning a second or a foreign language, and in using Internet (not necessarily for language learning).

About half of the participants recognized that Internet played some role in their foreign language acquisition.

Web browsing was recognized as the most useful type of activity, as far as language acquisition is concerned, followed by Email exchange in the target language.

The majority of the participants favored Internet use for language self-study, and almost all of them were in favor of using Internet and Multimedia in language classroom.

But, despite the overall interest in Internet use for language learning, the survey participants rated it behind reading books, TV, conversation with native speakers and classical formal language courses, as far as perceived effectiveness is concerned.

About two thirds of the participants indicated a need for strong teacher guidance, while the rest expressed inclination towards assisted self-study.

Overall, the use of the Internet (for language study) in classroom was accepted better, than its use at home, and the use of authentic materials was perceived better, than the use of Web sites, specifically designed for language study.

The results of the survey indicate that a teacher, trying to introduce Internet for foreign language teaching is not likely to encounter much resistance; indeed, his efforts are likely to be met with enthusiasm, but the students are likely to view him as a teacher-entertainer, rather than a teacher, trying to do his best in advancing the students' knowledge.

Most students have high expectations as far as the teacher's guidance is concerned, and are likely to be more comfortable in traditional teaching environment, rather than in the constructivist one (at least, at the beginning).

Relatively low rating of Web sites, specifically designed for foreign language learning is most likely due to the immaturity of the technique, and unavailability of sites which would take full advantage of the possibilities offered by the technology.

3.10 Strategies of Internet usage for Japanese teaching and the associated risks - learners' perceptions (a survey)

Another survey was conducted on the Internet, and was limited to Japanese language learners. The details of the survey are given in Appendix 4, a copy of the HTML form used in the survey is on the floppy disk, attached to this thesis.

The objectives of the survey were to determine the perception of the main features of the two models (static and dynamic), and to evaluate the student perceptions, as far as the potential risk of using Internet for Japanese language teaching are concerned. Risks are going to be discussed in much detail in the following chapter, but as the risk component of the survey was rather small (a single question), we cover it here.

Participants of the survey were volunteers, recruited among the readers of the following Internet news groups: sci.lang.japan, japan.lang.japanese and fr.lettres.lang.japonaise. To reward the participants, they were offered an option to download free software for

Japanese language learning (intermediate level).

Data collected in the survey consists of answers from 33 respondents.

As individuals, participating in the survey, indicated some interest in on-line Japanese language learning by the fact of participation itself, some information on the potential market can be gained from their sex and age data.

One result, which we found to be quite unexpected, is that about 90% of the participants were male. As there is no reason to believe that males are more interested in Japanese than females, one can make a conclusion that males are more adventurous in pursuing technology options for language learning. One may conclude, that in Internet-based Japanese language teaching teachers need to take steps to compensate the disparity of interest, and, possibly, skill; and to treat female students with extra attention.

As one would expect, the age group between 20 and 25 years old was the most active. On the other hand, we did not observe a monotonous decay in participation with age. In fact, the least active age group corresponded to the early thirties, and age groups between 40 and 60 were relatively active. Hence, one could conclude, that there are two distinct markets for on-line language learning – young people of university age, and people in their forties and fifties.

The first language of the participants was largely determined by or choice of newsgroups to advertise the survey, about half of the participants were English speakers, and almost half – French. The rest of the respondents can be roughly equally divided into European and Asian language speakers.

Apart from Japanese, English was learned by 48% of the correspondents, German by 30% French 21%, followed by Spanish (18%) and Russian (9%). Interesting to note, that 4 of the participants (13%) replied that they never studied Japanese (but as they indicated interest in Japanese language study by participating in the survey, we included their data, considering them as pre-beginners).

Nearly half of those who studied Japanese were beginners, followed by intermediate level, and a few advanced level participants.

90% of the participants indicated some use of the Internet for Japanese language study from home, those who used the Internet in classroom or in LL (Language Laboratory) were relatively few (13% and 10% respectively). This result indicates that at present institutional support of Internet use for Japanese language teaching is relatively weak.

The Internet is most often used for on-line dictionary access (61%), followed by Computer Mediated Communication in Japanese, such as Email or chat (52%), Kanji and Kana practice (42%), grammar drill (42%) and information collection (36%). Relatively high numbers of participants, using Internet for active communications in Japanese, came up as a surprise (considering that half of the participants were at the beginning level). Overall, one can see, that both static and dynamic-only activities were well represented.

CMC (Email, chat) is deemed as to be the best way of Internet use for Japanese language learning by 27% of correspondents. Another 21% selected Grammar drill and another 21% - on-line dictionary. The respondents' preferences indicate that there is a room for both static activities, and for communicative/constructivist learning, which at school can be achieved via the dynamic strategy.

Nearly half of the Japanese language learners (45%) indicated that the biggest obstacle in using Internet for Japanese language study is the difficulty of the Web resources. Curriculum relevancy and slow Internet connection were chosen by 15% and 12% of the correspondents, respectively. As we can see, provision of tailor-made resources, which would meet students' needs both in terms of complexity level and in terms of curriculum coverage is likely to be critical in exploiting the potential of the Internet, as far as Japanese language teaching is concerned. On the other hand, once high quality, well recognized resources are available, curriculums are likely to be adjusted to include them. As far as the Internet connection problems are concerned, we expect them to disappear as the local Internet access infrastructure improves.

79% of the participants preferred self-study to group study. This indicates, that some of the

constructivist teaching techniques are likely to encounter resistance from the students.

As for the main risk in using Internet for Japanese language teaching, 39% of the respondents indicated that appropriate materials are not available, followed by students being distracted by irrelevant resources (27%), lack of students' IT skill (9%) and technical problems (6%). None of the respondents considered encountering inappropriate materials (e.g. sexually explicit) to be the main risk. This result, again, highlights the necessity to provide tailor-made materials for Japanese on-line study. We expect, that any problems with students' IT skills and technical problems are likely to be of temporary nature, as students in the future will be more IT-literate, and networks – more reliable and user-friendly.

As for the prospect of Internet becoming a common tool in language teaching, 52% answered "probably", 30% "yes" and 12% "no". As we see, even people who demonstrated their interest by participating in the survey tend to take a cautious attitude, as far as the future of Internet-based language teaching is concerned. This result suggests, that a slow, stage-by-stage approach in introducing Internet-based language teaching, is likely to be better accepted by the learners than a more radical approach.

Chapter 4. Risks and their mitigation

As discussed in preceding chapters, the Internet can contribute to foreign language education, including Japanese language education, in various meaningful ways. However, in actual utilization of the Internet in foreign language education, there exist some risks and concerns to be taken into account. In this chapter, we identify the risks associated with using the Internet in Japanese language education. As in the rest of the thesis, we limit our consideration to the study of Japanese in an institutional setting, at school (we do not consider self-study, or natural language acquisition by a person subjected to a Japanese language environment.) For each risk identified, we seek the ways in which it can be removed or its impact reduced.

Any organizational change, including a change in teaching methods and techniques is bound to be accompanied by risks. In other words, something can always go wrong. Risks can be very high impact, such as a total breakdown of the educational process, or subtle, and difficult to notice, such as a slight decrease in teaching effectiveness (contrary to what was expected). On the other hand, avoiding change is not risk-free either. In the long term, risks cannot be avoided. But, they can, and should, be managed.

Risk management is an important topic in business, in software construction, and in the science of management in general. On the other hand, literature on education often tends to ignore the subject of risks. A new educational approach, such as constructivist teaching, or teaching with the Internet, is often promoted by enthusiasts who regard it to be a universal, trouble-free solution. In our view, acceptance of a new approach could be improved if risks are identified and published together with the principles of any new educational approach suggested. Risk description should be accompanied with recipes for risk mitigation (if risks are high-impact and can not be managed, then, obviously, the new approach should not be considered.)

Armed with an understanding of the risks involved, an implementer could plan a smooth transition much easier. And, in the first place, the implementer would be in a much better position to make (and to claim to have made to any critics) an informed decision, whether

to use the new approach at a given time.

As discussed in Chapter 3, two teaching strategies, static and dynamic, can be taken in web-based Japanese language teaching. In our discussion of risks, we will mention when a certain risk is specific to static or dynamic strategy. When no mention is made, it will mean that the risk is relevant to both strategies.

We will not limit our discussion to risks specific to foreign language education on the Internet; risks associated with Internet-based education in general will also be included when appropriate.

We discuss the risks relating to web-based Japanese language teaching from the following viewpoints:

1. Pedagogical aspect
2. Psychological aspect
3. Administrative aspect
4. Technological aspect
5. Web resource aspect
6. Human resource aspect

4.1 *Pedagogical aspect*

4.1.1 Unsuitability to the curriculum

The information on the Internet is not necessarily relevant, desirable or appropriate.

Especially when a static strategy is adopted, it is very important that the level or type of problems given corresponds to the students' needs and that the topics attract students. If not, students may lose interest and motivation. This risk can be mitigated by careful choice of materials by the teacher.

When dynamic strategy, and, correspondingly, a partially constructivist approach is taken, the students have a say in choosing the curriculum (e.g. by searching for sites of interest to

them). Then, there is a risk of mismatch between the official curriculum and the real one. Teacher guidance can serve to mitigate the problem, but it may not be enough if the students are to pass an exam based on factual information, specified by the official curriculum (see 4.1.4).

4.1.2 Lack of personalized advice and follow-up from teacher to students

When students cannot answer correctly, a teacher may be needed to give proper advice and explanation. Yet, while learning in static mode, personalized hints and answers are not available. This risk can be mitigated by choosing the materials which provide an adequate level of explanation. Also, materials may offer several views of a problem, to accommodate personal preferences.

4.1.3 Balance of monitoring and freedom

In case dynamic strategy is taken in web-based foreign language education, the students' initiative is appreciated. However, in this case, proper monitoring by a teacher is sometimes necessary. For example, in exchanging email or in on-line discussions, the topic can be sidetracked and/or the discussion can move in a wrong direction and bear no fruit. Mitigation can be achieved by using discussion groups in preference to Email, and by introducing a degree of mediation. While in most cases, due to the lack of time, a teacher cannot review each message before it is posted, he/she can participate in the discussion, correct some mistakes and offer a general direction. Often the mere fact that the teacher is reading all messages (or that the students believe he/she does) prevents "flame wars" and keeps the discussion more or less on-track.

Another problem, specific to the dynamic strategy, is particularly relevant to teaching languages other than English to English speakers (Murphy 2000) - students tend to browse sites in English, as at the moment, English is the prevalent language on the Internet. While some degree of teacher monitoring may be beneficial, it is not technically feasible to have full control. The problem can be mitigated by stating clear project objectives, and by choosing project topics of interest to the students.

4.1.4 Assessment of students' progress

If a dynamic model is followed, with a strong constructivist teaching component, there are a number of problems associated with assessment.

If assessment is made by administering an examination, based on factual information or specific well-defined skills, there is a risk that exam topics are not covered by the “real” curriculum, developed with student participation. As in project-based learning students have a significant degree of freedom, it appears that the only way to mitigate this risk is by strengthening the “instructivist” component of the course. Otherwise, students will either neglect the “useless” projects or will have to cram everything in immediate preparation to the exam (unfair in any circumstances, this is also almost impossible in the case of language learning).

Some specific risks are associated with group projects. If all students participating in the project receive the same marks, it may result in a “game of chicken” when nothing is done by anybody, until one participant (the “chicken”) starts doing something, resulting in everybody else free-loading on whatever result is achieved. If marks are allocated differentially, there is a danger that stronger students will attempt to drown weaker students, in the (often correct) belief that the average grade is decided in advance, so the grade for better performing students will be better if others perform badly (particularly, relevant in small classes.) These risks can be mitigated by finding interesting projects and putting less stress on the assessment. Fostering competition between groups and awarding points for good “group work” may also be helpful.

Marx et al. (1997) mention the difficulty for teachers to evaluate students' performance in Project Based Learning (PBL). According to them, teachers have difficulty in designing assessments that tap student understanding, and the artifacts they ask students to produce do not always require students to synthesize information or generate new conceptual representations.

4.1.5 Evaluation of the teaching process

Murphy (2000) discusses the mismatch between the new technologies and the old institutions. Technology-based constructivist teaching cannot simply be assimilated into

traditional classroom practices. In particular, the evaluation criteria needs to be modified.

In a static model, in which teachers gauge the results statistically with scores for certain language skills such as reading, listening, vocabulary or grammar, it may be easy to evaluate the effectiveness of a web-based course. However, when it comes to a dynamic model, extra valuables need to be added such as motivation, interest, encouragement, positive attitude and willingness to communicate in the target language.

Conventional evaluation criteria cannot assess the classroom teaching in which project- and task-oriented activities and group learning together with technology use are emphasized. Benefits of this type of learning, including motivation and interest enhancement and acquisition of learning skills, are all likely to be neglected in the assessment frame invented for traditional teaching approaches. As Rose (1996) points out, based on the result of a study by Samimy and Tabuse (1992), who researched Japanese language learners, motivational and attitudinal factors are critical in predicting the success of language learning.

The risk of unfair evaluation of a constructivist-based teaching process can only be mitigated at the administrative level. Hence, administrative support is essential, if dynamic strategy is to be attempted.

4.1.6 Time teachers need

Cameron (1994) mentions that often even teachers who are interested in the possibilities offered by Internet, and willing to integrate the technology in their classroom teaching cannot go ahead due to the lack of time. Martel (1999) cites Haughey and Anderson's report (1998) that Internet-based teaching can take easily three times longer in preparation than conventional approaches. Warschauer and Meskill (2000) note, that for web-based second language education, teachers need time not only for mastering technology, but also to elaborate the details of the new teaching method (in other words, they can not teach exactly the same, as they did for years). Moreover, due to the changing nature of the Internet, materials available one year may be modified, or can even disappear the following year, thus repeating the same performance each year (as many "instructivist"

teachers do) is not an option. Time constraints are often associated with rigid overextended curriculum, and with the (real or perceived) necessity to “cover everything”.

In case of the static strategy taken, the key to overcoming time constraints is the choice (and availability) of teaching materials. If the materials have to be created by the teacher him/herself, or the teacher has to integrate many disparate resources, then the benefits of the static use of the Internet can only be realized to a very small degree.

If the dynamic strategy is adopted, then the teacher has to recognize that much of what is happening in the teaching process is outside of his/her control, and to adopt the role of facilitator. Project topics, rather than specific Web sites etc., may be given, in an assumption that students will find the resources themselves. Monitoring of student activities, such as discussion group submissions, is important, but does not have to be pervasive. Not all mistakes need to be corrected, and students are to be given a chance to correct each other. In other words, consistent implementation of constructivist approach solves many of the time problems.

4.1.7 Plagiarism

Plagiarism is greatly simplified on the Internet as text or images can be copied with a great ease. As students around the world publish their work on the Internet, other students can cut and paste it very easily.

There is no easy way to mitigate this problem. Original and up-to-date project topics and review of projects on the way to completion may be recommended. Also, students should be educated about plagiarism, so that they are aware that it is unacceptable. When suspicions are high, the original source may be revealed via Internet search.

4.2 *Psychological aspect*

4.2.1 Negative perceptions of technology

Nervousness and uncomfortable feelings about using technology in language classroom are

common to both teachers and students.

In the future, both teachers and students are likely to become more computer-literate, while at the same time computers and networks are likely to become much easier to use. Thus, risks associated with negative perceptions of technology are likely to diminish with time. At present, mitigation can be achieved via training and via provision of technical support.

Yellen (1999) suggests, that mere availability of technical support (even when students do not really use it) may improve students' perception of a computer-based course.

4.2.2 Acceptance of constructivist teaching process

Another source of negative perceptions is associated with constructivist uses of the technology.

Teachers often find it difficult to accept the unpredictable nature of the constructivist classroom (which is made even worse by the presence of the technology component, which can break down etc). In particular, teachers find it difficult to find a correct degree of control over the process, as traditionally teachers were expected to exercise full control.

Confusion may take place among students experiencing a different learning style (in a dynamic model). According to Felix (1999) and Levy (1997 B), not all students prefer a project-based collaborative learning style. The predictable nature of "instructivist" learning appeals to some students, and the introduction of constructivist practices may even lead to a fall in motivation. Group projects, in particular, may lead to problems of interpersonal nature, and to the perception of assessment results as being unfair.

As constructivist teaching is practiced, both teachers and students are likely to appreciate it. The way to mitigate risks associated with its negative perception is by introducing the new practices gradually and by retaining opportunities for traditional instruction (as our definition of the dynamic model suggests).

4.2.3 Language learner anxiety

Apart from anxiety with respect to the use of technology and with respect to constructivist practices, there is an anxiety associated with the language study process in general.

Horwitz et al. (1986) mention three factors contributing to a language learner anxiety:

1. Apprehension or shyness about communicating with others
2. Fear of negative social evaluation in various situations when speaking a second language
3. Fear of test failure.

Factors 1 and 2 are likely to be mitigated in case a static model is used, as it effectively isolates the student. In a dynamic model, 1 and 2 can hinder students' group work and project presentations. Anxiety is diminished if students have an option to communicate over electronic media, rather than in person, and when not too much stress is put on project presentations. Generally, asynchronous communications over electronic media tend to put shy students on a more equal footing with others.

Fear of test failure, and the associated over-anxiety, is partially mitigated if the results of the test are kept secret. That is easy to achieve if a static model is used. In group-based teaching, the assessment results are likely to become known, but as the result is not attributed to a single individual, it is less likely to cause over-anxiety.

Psychological climate is very important if a dynamic model is used, as constructivist teaching is learner-centered, and relies on a positive learner attitude.

4.3 *Administrative aspect*

4.3.1 Lack of support and understanding of IT use for language teaching

While computers and networking equipment are commonly available in present-day schools, their use is mainly limited to Information Technology, Science and Business subjects.

Hence, a language teacher wishing to use the Internet needs to gain access to equipment and obtain some commitment of support from whoever is in charge of the facilities. The risk is that even if the teacher gains access, he/she may not receive sufficient technical support, and thus will have to double his/her workload as a teacher and as a system administrator. Moreover, if students are not familiar with computer usage, the teacher also has to act as an IT instructor.

As it was mentioned in Chapter 2, in the future, technical problems are likely to be diminished. In the meantime, the use of the Internet for language teaching requires solid administrative support, including a commitment of technical support, when required.

4.3.2 Equal opportunities

When using computers at school, a teacher is able to assure that all students have equal access. On the other hand, if there is any reliance on students' work at home, the teacher has no control over the kind of facilities different students may have access to.

As Graus (1999) points out, the difference in technical capabilities has to be considered. Not all of the students have Internet access at home. Computers students may have are likely to differ in type and in multimedia capabilities. In this connection, in New Zealand, a paper, published by the Information Technology Advisory Group (ITAG) says that

“The National Education Goals recognize the importance of equal educational opportunities for all New Zealanders. In the knowledge society, equitable access to information is a critical element in realizing this goal”

(Butler 2000)

It is the teacher's responsibility to structure work in such a way that no students are disadvantaged. Conceivably, this can be achieved by either refraining from giving computer-based homework, or by giving disadvantaged students additional access at school.

In the future, the difference is likely to level out, as everybody will have access from home. It should be noted that availability of Internet access from home is not necessarily determined by economic factors. A recent US study indicates that factors such as age and education play much greater role (Nielsen 2000 B).

An imbalance in computer proficiency between boys and girls is pointed out in Graus (1999) and Kadjevich (2000). Kadjevich reports that males showed a more positive attitude despite no gender difference between males and females in computer anxiety. (Kadjevich 2000). Boys may have an advantage because of the difference of interest in using computers among boys and girls (most of the computer game crazy children are boys rather than girls.) Some school staff, parents or students themselves may perceive that it is natural for boys to be more IT literate than girls. The risk is that female students may be discouraged from using the Internet effectively. The teacher is to build confidence in any students who might need it, e.g. by noticing their accomplishments and by giving challenging, but accomplishable assignments.

4.3.3 Students protection / security

Some of the material available on the Internet is not appropriate for young students, in particular, pornographic materials, materials provoking racial hatred, etc. Contrary to many other problems associated with the use of Internet for education, we do not expect this problem to disappear in the near future. On the other hand, the perception of the problem may change, once it is no longer new. Another similar, but perhaps more serious risk, is that a child may be contacted over the Internet by sex offenders and generally, individuals with malicious intentions.

Another possible problem is less evident - when working with computers a lot, students may acquire occupational overuse syndrome, health hazard associated with repetitive actions performed with mouse and keyboard when operating a computer.

In terms of protecting the students from Internet-related problems, McKenzie (2000) reports the case of Victorian schools in Australia. He points out that it is the school's responsibility to be aware of the risks. The risks involve exposure to inappropriate or

harmful content, undesirable persons and occupational health issues. The risks are foreseeable, hence, schools have a duty of taking care to prevent them.

The following is the list of potential risks to children who use the Internet, identified by (Graus 1999):

- i. Cyberporn, sex offences, stalking, invasion of privacy and emotional abuse
- ii. Cyberhate and defamation
- iii. Instruction on crime: hacking, bomb recipes and theft
- iv. Credit card fraud and online gambling
- v. Internet PC cameras (pccams), spam and hoaxes
- vi. Technostress, depression and occupational overuse syndrome
- vii. Soft targets of theft

In particular, in using a dynamic model extra caution is necessary. Students may exchange e-mails, join Bulletin Boards and/or publish their compositions on the Web. In addition, more and more schools are publishing their school's home page. For instance, in New Zealand, over 50% of secondary schools have a home page (Butler 2000). While publishing on the Web is an excellent opportunity for constructivist teaching, availability of school home pages means that a potential offender can find potential victims simply by running a search in a search engine.

One should not overestimate the Internet dangers. Indeed, if we were to list all risks associated with a child going to buy groceries in a supermarket in a modern city, the list is most likely to be quite impressive. On the other hand, it is the responsibility of the teacher to be aware of the risks and to manage them. Here, the best countermeasure is communication with the students, so that the teacher is reasonably aware of what is happening. Also, students are to be advised to be skeptical with respect to any approaches from strangers made over the Internet.

Technical means, restricting access to parts of the Internet do exist (to prevent students from being exposed to undesirable content.) Their effectiveness is necessarily limited, as it is difficult to distinguish desirable and undesirable content programmatically with any

degree of certainty.

4.3.4 Budget

Hardware and software costs are only a fraction of the costs involved. There is a risk of overlooking or underestimating the costs of maintenance and teacher training.

While at present, most of the Internet resources are free, in the future, particularly if a system of micropayments is established (Nielsen 2000 A), it is likely that best resources are going to be charged for. This is likely to lead to dramatic improvement in the quality of resources, in particular, in language courses, so it should not be regarded as an entirely negative development. Still, there is a risk that Internet based teaching programs, designed under an assumption that access is free, may experience some budgetary problems.

According to Martel (1999), as for the French language, over 90% of the Internet-based language courses were created with commercial intent and this percentage is similar in the American and in the Canadian part of the Internet.

As for the budget allocated for teachers' training, Burnett (1999) points out that most institutions spend much more money on equipment than on teacher training. This may be an unwise policy, as untrained teachers may not be able to use the equipment effectively, nullifying the investment made into it.

4.4 *Technological aspect*

The problem of computer and Internet connection availability, where it still exists, is likely to be resolved in the near future. Also, one should note that for a dynamic model of Internet utilization, there is no necessity to have a separate computer for each student. In group work, only some group participants actually need Internet access, as the rest can rely on their findings (Debski 1997).

The problem of Japanese fonts and a Japanese input system is essentially resolved, as they

are available as a standard system update for most popular operating systems, downloadable from the OS manufacturer's Web site (still, someone has to possess the minimal expertise, required to install them).

Another vital point relating to Japanese language education is sound. The overwhelming majority of new computers come with a soundboard, but older ones might not have one. Thus, a teacher should not assume that a sound board (and thus, the capability to render sound) is available on all computers.

A more general problem is the quality of the Internet connection, particularly under the circumstances when many students are trying to use it at once. Appropriate technical advice should be sought on the quality of service attainable before any attempts to implement Internet based teaching are made.

A low quality line with long download times is likely to make Internet use for language teaching quite difficult, in particular, if the sites accessed are heavy on multimedia, such as graphics and sound. If a static model is implemented, under present circumstances, one might consider to host the required software locally (but that would increase the support costs.)

In New Zealand, telephone line conditions differ depending on the area, and this may affect the Internet access. The bandwidth availability is continuously improving, but schools located at bigger centres are generally at an advantage.

4.5 *Web resource aspect*

In case of adopting static teaching strategy, the prime concern may lie in finding proper resources, because the strategy fully relies on the quality of the resource. If a teacher can find quality resource, much of the work is done for static language learning situation.

Dynamic model may include activities which do not require any pre-existing language materials, such as Email exchange, creation of Web sites or participation in discussion

groups. But, more often than not some element of reliance on Web-based resources will be present, such as when authentic language materials are researched in project-based learning.

4.5.1 Lack of coherent structure

Structure of Web sites varies a lot and considering the abundance of information, it is very easy for an inexperienced user to get lost.

While it might be difficult to find information on certain topics, the most common problem is not the information scarcity, but the abundance of marginally relevant information. To effectively use the Internet for information retrieval, one needs to develop retrieval techniques, such as the use of a search engine advanced features.

In language learning, if learners are not knowledgeable enough to judge which resources are reliable and useful, there exists a danger that high quality resources can be regarded at the same level of and in a similar way to low quality ones.

With all the variety available, recent Internet research shows that a very small number of very big and well-known sites, such as www.yahoo.com, get most of the hits (Nielsen 2000 A). We expect that language-teaching sites will follow an evolution, similar to the rest of the Internet - eventually several biggest, best sites will emerge as the winners, serving most of the worldwide community of learners.

4.5.2 Resource quality

At present, most cases of Internet usage for language teaching follow the dynamic model (Debski 1997; Murphy 2000), relying almost exclusively on the constructivist approach. One of the reasons for that, in our view, is that although web sites designed for language teaching (including Japanese) are quite numerous, either quality or quantity of material provided on each of them is not sufficient to support a real language course (Tretiakov 2000). In our view, it is due to the fact that micropayments (or any other easy to use electronic payments system) are not established yet, and there is no easy, semi-transparent way for an organization to charge for on-line services. Hence, there is a risk that a Web

resource of insufficient quality may be chosen for Internet based teaching implementation.

In the future, this problem is likely to be increasingly mitigated with the use of “reputation managers”, special trusted sites which aggregate input from users of other sites relating to their quality (Nielsen 2000 A).

4.5.3 Content validity

As already mentioned, not all Internet content is necessarily valid. In particular

- Content may be created by individuals who do not possess the necessary knowledge, qualifications or judgment;
- Content may be intentionally misleading;
- Content may be out of date.

There is a risk, that students might perceive incorrect content as correct, and thus acquire mistaken information.

Teachers should make students aware of the possibility that information available on the Internet is incorrect, and teach them the ways to estimate the validity of the information (such as considering the reputation of the source, comparing to other sources, checking publication date etc.) Ideally, teacher should communicate with the students, and provide guidance when students are misinformed.

It should be noted that the problem of invalid information is not limited to the Internet, but is inherent to all media. While it is easier to encounter invalid information on the Internet, it also provides the facilities (such as search engines and discussion groups), which greatly facilitate validation of information.

4.5.4 Usability

Relevant and valid information is not sufficient to make a site appropriate for Web-based teaching. The site should also be easy to use, in other words, the usability of the site should

be high.

Discussing various aspects of Web sites usability would take us too far from the main topic of this thesis. An excellent book on the topic was published by Nielsen (2000 A), another good source of Web site usability related material and news is the Nielsen's column at useit.com. The risk that students will get bogged down at a site with low usability characteristics (such as poor structure or way too heavy graphics for the bandwidth available) is quite real. When resources are selected by the teacher, the usability factor should be taken into account. When students are selecting resources, all the teacher can do is provide guidance and suggest alternatives.

4.5.5 Content relevance

Resources used, obviously, need to be relevant to the teaching objectives. In particular, resources should fit the target learners, their ages, levels of proficiency and so forth. When students are allowed to browse and search freely, they are exposed to all sorts of materials, most of which are likely to be irrelevant. In the case of project-based learning, it is the student's responsibility to find the materials, which are relevant. Teacher guidance may be required if students become lost.

4.5.6 Content stability

Resources, available today, may be modified tomorrow, or may be taken off-line altogether, or may be inaccessible temporarily due to line conditions (Godwin-Jones 1999). There also is a possibility that resources, available for free, may be charged for in the future. Thus, content, prepared for use in a class may become suddenly unavailable. Conceivable countermeasures are sufficient knowledge of the resources (so that one can infer the probability of change) and preparation of back-up resources in case primary resources become unavailable.

4.5.7 Resources, requiring registration

Some Web-based resources require registration to acquire full access. This can be regarded as a usability problem (Nielsen 2000 A). As registration is associated with provision of private information, such as names, addresses, phone numbers for example, privacy issues

are likely to arise, and teachers probably should avoid using sites, requiring registration from the students.

4.5.8 Content creation by teachers

Some teachers may be tempted to create their own content for use in Internet based language teaching. While this is not particularly difficult technically, we do not believe this is a way to go for most teachers. Indeed, neither static nor dynamic strategy suggests creation of materials by the teachers themselves.

There are two major risks associated with teachers creating their own material:

1. Teacher effort may be overextended (as he still has to allocate time for the regular teaching chores)
2. The quality of the content may be low (as most teachers have neither resources, no time to acquire the skills required)

We suggest that teachers use existing high quality materials, both in static and in dynamic models. Good Internet based language teaching courses will offer customization features, and those features should be used to adjust the materials to best suit the local needs.

4.6 Human resource aspect

Huge load (time and energy) is placed on teachers' shoulders in conducting web-based language education. They need IT skills and knowledge sufficient to be able to facilitate both language class and students' computer use. Management skill is also important, especially if dynamic strategy is taken. This is not only because of the technology use but also because of the necessity to organize and to manage group activities.

We expect that in the future as availability of Web based language courses improves and computer networks become more user-friendly, Internet-based teaching will become much easier to conduct. At present there is a risk that teachers, possessing all the necessary skills may be difficult to find. Administrative and technical support may somewhat alleviate the problem. Currently, web based teaching is often conducted by enthusiasts (Murphy 2000;

Debski 1997), and availability of institutional support varies.

4.7 *Teacher beliefs relevant to risks*

Teacher beliefs we were able to identify in the database of teacher beliefs, published by (Murphy 2000), are listed in Appendix 5. This was done after the risk identification process, based on the literature data and our understanding of the possible developments was completed (as described in this chapter so far).

As one can easily verify, the risks, the teachers are aware of are broadly covered by the risks identified in this chapter.

Although, the teachers were not aware of a some of the risks we identified in this chapter (in particular, risks relating to student assessment and teaching process evaluation were not covered), we have to recognize, that teacher awareness of the risks is quite good.

As it is noted in Appendix 5, we did not identify any beliefs, which would oppose the Internet use or the use of constructivist teaching practices, on principal basis.

5 Conclusions

Internet capability to connect students to each other and to Japanese language learning resources, combined with current technological trends make inevitable, that Internet will be increasingly applied to deliver Japanese language teaching.

The main strategies in introduction of Internet-based language teaching were identified as static (computer-administered) and dynamic (teacher-administered). The dynamic strategy is likely to deliver better results in return to committing significant resources in terms of teacher time and effort. A static model offers a cheaper option, and does not rely on the availability of highly qualified teaching personnel.

Literature data, and our own results indicate that both models are likely to gain a degree of acceptance by the learners.

We identified numerous risks, associated with the adoption of Internet for Japanese language learning. While all risks identified could be mitigated, stage by stage approach to Internet introduction, minimizing risks, is to be recommended, and is likely to be accepted both by teachers and by students better, than a more radical approach.

The main obstacle to a wider acceptance of Internet in Japanese language teaching is the lack of high-quality materials, tailored-made for Japanese language teaching. As Japanese has a steeper learning curve than European languages, such as French (at least, as far as English language speakers are concerned), authentic materials are not enough to provide a working learning environment for most of the Japanese language learners.

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[WWW sites]

www.palowireless.com - Wireless resource center

encarta.com/languages – Microsoft Encarta language learning

www.readplease.com - Text-to-speech software applications

Appendices

A1 Resources for Japanese language education on the Internet

This section discusses resources for Japanese language education, currently available on the Internet. Resources are classified by how they can contribute to Japanese language education from the viewpoints of language teachers and learners.

We consider not only conventional CALL materials, such as grammar drills, but also resources, which can be utilized in project based learning, as a part of the dynamic model realization.

According to Robson (2000), there are three ways computers are used in education:

1. To develop skills.
2. To access information.
3. To nurture appropriate attitude towards using technology.

For the case of Japanese language education, we interpret the first two as:

1. To improve language proficiency.
2. To access information on the language and on the culture and life of the target country.

Considering the communicative function of the Internet and the importance of interpersonal communication in language teaching, we add one more category:

3. To communicate with other learners, with the teacher, and with the speakers of the target language in general.

By further subdividing some of the categories, we come to a classification illustrated in Figure 9.

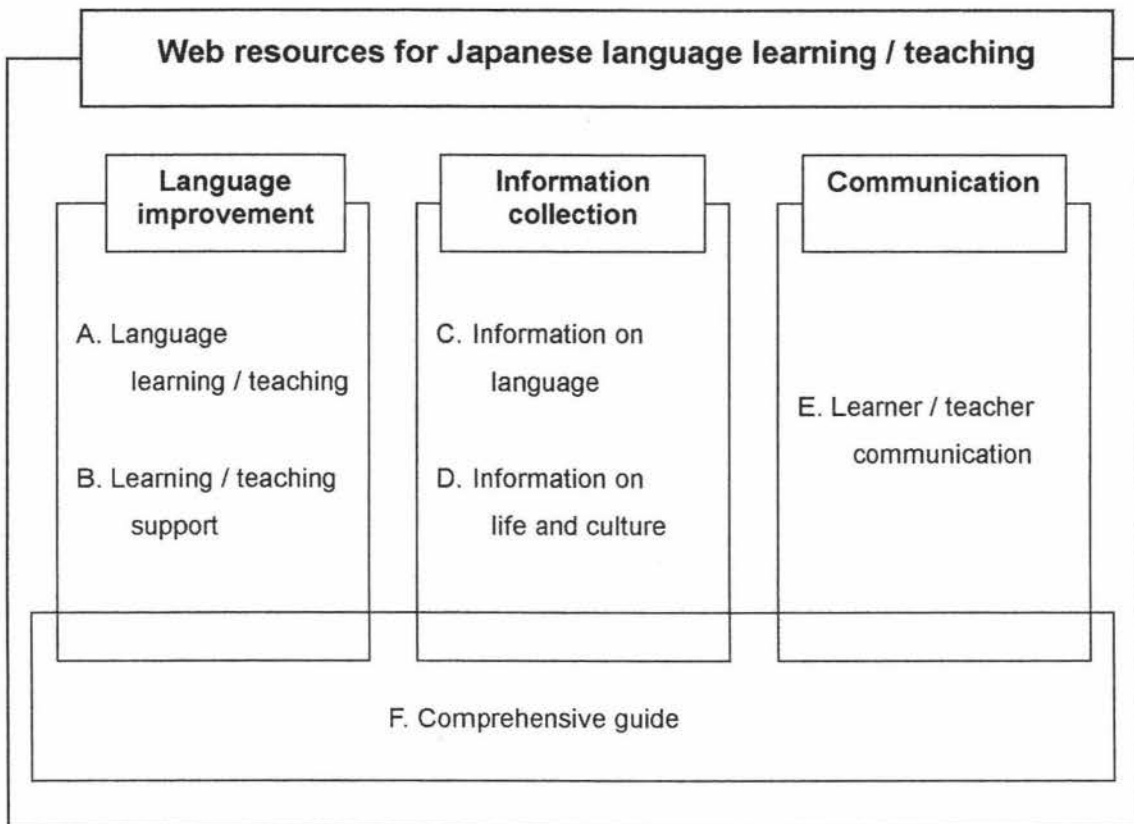


Figure 9. Internet resources categories

Web resources listed here are restricted to what could be accessed free of charge in January 2001. This is not an exhaustive list, but rather a collection of samples, designed to demonstrate what is available. For each site, we give its name (as taken from the site's home page), a brief comment and a URL.

A. Language learning / teaching

A-1. Basic Japanese Resources

This is a part of the site of Griffith University, Australia. Lessons are for beginning and intermediate level learners including Kanji reading, grammar explanation and drills for Kanji practice.

http://www.gu.edu.au/school/lal/japanesemain/JP_Res/JP_Res_home.html

A-2. Irasshai

An on-line distance Japanese language course offered in North America. Originally, the course was designed to counter the shortage of Japanese language teachers in the US, and used some now antiquated techniques, such as conventional phones for conversation practice. Learners can interact electronically with other students in the course. Abundant information about Japanese language and culture.

<http://www.peachstar.org/irasshai/homepg.htm>

A-3. Japanese-online

A web site for beginning level learners providing the lessons of conversational expressions and Kana (Hiragana and Katakana). Includes 16 Japanese lessons. Based on situational approach.

<http://www.japanese-online.com>

A-4. Kanji Challenge

Interactive Kanji quiz for all levels learners. Questions come up one after another so far as the answer is correct. Multiple-choice questions. There is a time limit for each question and a learner (a challenger) can get the results and see the ranking display. These features may help to enhance learner's incentives, interest and motivation.

<http://webjapanese.com/wj/kanji-c/index.htm>

A-5. Kid's Window

Hiragana and Katakana lessons in "Language Class" and basic words learning in the "Library". For elementary level learners. Colorful design, sounds and overall atmosphere may appeal to the target learners - children.

<http://www.jwindow.net/OLD/KIDS/>

A-6. LESSON/J

Listening quizzes for all levels using Java applets (spoken sentences, words, moras and accents). Learners can check pronunciation by visualizing the waveform, recorded over a microphone (see Miwa 1999 A).

<http://sp.cis.iwate-u.ac.jp/sp/lesson/j/>

A-7. MIT Japanese Language Program

Materials created for the courses the university offers. Includes Kana, Kanji, reading, quiz, review materials and photographic vocabulary aid.

<http://web.mit.edu/jpnet/mit/index.html>

A-8. Nihongo Kyoushitsu

Reading and composition practice. Targets intermediate to advanced learners. Reading materials are challenging and question types vary. Writing can be checked by the (human) site coordinator.

<http://www.kyoto-art.ac.jp/~kicl/jps/>

A-9 J-J (Japanese with Java)

This site was created by me over the period of my Master Course study at the Massey University (Palmerston North, New Zealand). It is hosted by the International University of Moscow in Russia. It is a relatively big site (over 2000 Kanji and Kana entries, more than 200 grammar entries), designed for teaching in static mode. The site provides its own Japanese fonts, so no font setup is required at the client side. The tradeoff for that is a relatively slow startup time of about 20 seconds over a regular modem (as fonts download). The site targets intermediate and advanced learners of Japanese.

<http://www.interun.ru/j-j/>

B. Learning/Teaching support

B-1. Creating Language Interactivity on the Web

Provides technical advice to foreign language teachers in utilizing the Internet for language teaching. The emphasis is on creation of Web - based language teaching materials.

<http://mld.ursinus.edu/~jarana/Colby/index.html>

B-2. Goo Benri Tool

On-line Japanese-English dictionary. Works in six different modes (such as word search, Kanji search etc.) Instructions written in Japanese.

<http://dictionary.goo.ne.jp/cgi-bin/jp-top.cgi>

B-3. Reading Tutor

On-line text analyzer, performs lemmatization, provided word translations, grades words and Kanji according to the Japanese Language Proficiency text levels, and supplies Furigana (see Kawamura 1999 for Japanese textbook analysis).

http://language.tiu.ac.jp/tools_e.html

B-4. TACT (Textual Analysis Computing Tools)

A suite of text analysis tools, available for download. Developed at the University of Toronto (see

Tollini 1999; for an example of using this system for reading practice).

<http://www.chass.utoronto.ca/cch/TACT/tact0.html>

B-5. Translation Now!

Translate short passages from Japanese into English and vice versa on-line. Quality might not be satisfactory, though.

<http://www.foreignword.com/Tools/transnow.htm>

B-6. YourDictionary.com

Comprehensive portal for languages Can search for on-line dictionaries and language-related products from numerous resources.

<http://www.yourdictionary.com/>

C. Information collection - language learning / teaching

C-1. Japanese Tutor

A portal, featuring information on Japanese language resources, such as on-line language lessons, on-line dictionaries etc.

<http://www.japanesetutor.com>

C-2. J Guide

Stanford guide to Japanese language resources. Mainly, a collection of categorized links.

<http://fuji.stanford.edu/jguide/Language/>

C-3. JP NET Services and Information

One more Japanese language resources portal, part of the "Japanese language and culture network" hosted by MIT.

<http://web.mit.edu/jpnet/index.html>

C-4. Web site for Japanese students, Griffith university

Japanese language portal, provided by Griffith University, Australia. More compact than other portals introduced here, information is not limited to language, covers culture, political institutions etc.

<http://www.gu.edu.au/school/lal/japanesemain/Japanese.student.bmark.html>

D. Information collection - life and culture

D-1. asahi.com

Newspaper articles available in Japanese and English. Also, chat rooms and discussion groups. Authentic environment, real people, real language.

<http://www.asahi.com/>

D-2. Japanese culture

Japanese culture portal. Topics included are art, business, history, religion and women.

<http://japaneseculture.about.com/culture/japaneseculture/cs/business/index.htm>

D-3. NHK On-line

News in text, video and audio. Authentic multimedia source. Formal vocabulary and expressions, different from those in everyday conversation. Also available in English version.

<http://www.nhk.or.jp>

E. Learner/ teacher communication

E-1. Association of Japanese Language Teachers in Europe (AJE)

Home page of the "Association of Japanese Language Teachers in Europe" (AJE). Contents include information on events, jobs openings, bulletin boards. Both Japanese and English versions are available.

<http://castelj.soken.ac.jp/groups/aje/Pages/english.html>

E-2. Human Japanese FORUM

Japanese grammar discussion forum. Answers by peers and by the members of the Human Japanese Forum.

<http://humanjapanese.com/forum/>

E-3. Space ALC

Comprehensive community space including information on Japanese language textbooks, teaching and study methods, discussion forum etc. Japanese only.

<http://www.alc.co.jp/jpn/index.html>

F. Comprehensive guide

F-1. Griffith Japanese on Nathan Campus

Includes language lessons, links to web resources, description of courses provided at the university. Also included are students' works.

http://www.gu.edu.au/school/lal/japanesemain/Griffith_Japanese_Home_Page.htm

F-2. Japanese Language

Links to information on Japanese language, life and culture and jobs. Japanese lessons updated weekly and sent out by email to registered users.

<http://www.Japaneseabout.com>

F-3. Japanese language resource center

On-line lessons, information on Japanese language resources. Proficiency test and discussion forum. Both English version and Japanese version are available. Created by an Internet technology consulting company.

<http://www.kanjistep.com/index.html>

F-4. KIDS WEB JAPAN

Language lessons, information on Japanese life and culture (politics, schools, sports, arts, history, food), games, Q&A. Monthly information bulletin is issued. Colorful, uses graphics a lot. Versions available for a number of languages (for instruction and explanation parts).

<http://www.jinjapan.org/kidsweb/index.html>

A2 *Structured queries*

To determine the relative awareness of the on-line communities of a number of issues we used a technique, that we call structured Internet query. A combination of words was selected to represent an idea in most general terms, and queries at the Google Internet search engine were performed, while varying a single keyword (usually, the one expressing a language). We used a simple OR query, that is, in resources found all of the words had to be present.

The result reflect the number of occurrences the combination is mention in all sort of Web documents, including Web pages, on-line discussions etc. As huge numbers of hits were found, obviously we were unable to examine each document. While some of the hits are bound to be irrelevant to the intent of the query, the tendencies we find appear to be very plausible.

The results we give here are valid for January 2001, the exact number of hits is changing from day to day, but we assume that a single time slice is going to pinpoint the right ratios, as the number of hits involved is rather high.

A2-1 *Japanese language popularity*

To determine the popularity of different languages , the following query was used

<language> language learning

Japanese, English, German etc. were substituted for <language> (see Fig. 10)

In Figure 10, N stands for the total number of hits (number of documents found by the search engine, containing all the words in the query). R gives the ratio of the number of hits for a given language to the number of hits for English, for the same query.

As one can see, Japanese is behind all “first-world” languages (English, French, German and Spanish), but not with a big margin, and is closely followed by Chinese.

		Japanese	English	French	German	Spanish	Chinese	Russian	Ukrainian	Maori	Esperanto
language learning	N	627000	1250000	794000	709000	767000	584000	513000	3140	18700	13100
	R	50.16	100.00	63.52	56.72	61.36	46.72	41.04	0.25	1.50	1.05
1 constructivist language learning	N	1300	7010	2000	1510	1770	1230	881	3	65	21
	R	18.54	100.00	28.53	21.54	25.25	17.55	12.57	0.04	0.93	0.30
	Q	0.37	1.00	0.45	0.38	0.41	0.38	0.31	0.17	0.62	0.29
2 communicative language learning	N	7240	39300	12500	9790	10700	5960	4590	22	186	240
	R	18.42	100.00	31.81	24.91	27.23	15.17	11.68	0.06	0.47	0.61
	Q	0.37	1.00	0.50	0.44	0.44	0.32	0.28	0.22	0.32	0.58
3 audio-lingual language learning	N	208	882	356	266	397	227	132	0	7	10
	R	23.58	100.00	40.36	30.16	45.01	25.74	14.97	0.00	0.79	1.13
	Q	0.47	1.00	0.64	0.53	0.73	0.55	0.36	0.00	0.53	1.08
4 online language learning	N	232000	501000	403000	326000	365000	200000	147000	884	3500	6410
	R	46.31	100.00	80.44	65.07	72.85	39.92	29.34	0.18	0.70	1.28
	Q	0.92	1.00	1.27	1.15	1.19	0.85	0.71	0.70	0.47	1.22

Fig. 10 Structured queries matching frequency

N - No. hits

R = N / N(English)

Q = R / R1

A2-2 Teaching methods

To determine the prevalence of different teaching approach in teaching different languages the following query was used:

<method> language learning <language>

constructivist, communicative and audio-lingual were substituted for <method>

Japanese, English, German etc. were substituted for <language>

The results are given in Figure 10.

Now, along with N and R, Q is given, which is R for the given language and teaching method, divided by the R for the same language in query 1 (R1). Q reflects the popularity of the given teaching method for a given language (and does not depend on the popularity of the language itself).

As it was expected, communicative language learning receive consistently more hits than constructivist or audio-lingual language learning. On the other hand, constructivist language learning received consistently more hits than audio-lingual language learning.

Japanese was behind all other “first world” languages (English, French, German, Spanish), as far as the popularity of constructivist language learning is concerned, approximately at the same level as Chinese.

A2-3 On-line learning

To determine the relative popularity of different strategies on using Internet for language learning, the following query was used:

<learning mode> learning <language>

'online' and 'computer assisted' were substituted for <learning mode>

Japanese, English, German etc. were substituted for <language>

Same as for teaching methods, N, R and Q were calculated (see above for the definitions). The results are given in Figure 10.

Again, Japanese was behind all "first world" languages in on-line learning popularity, and close to Chinese. French was a clear leader, and English was behind French, German and Spanish.

This result justifies using French as a test language as far as Internet based teaching is concerned, other languages are likely to follow suit.

A3 Student acceptance of Internet use for foreign language teaching – a survey

The objective of this survey is to investigate the perceptions of foreign / second language learners as to the use of the Internet in foreign language teaching. The survey took place with 16 subjects, all of them students of a tertiary institution. Most of the subjects were foreign students or recent migrants, thus, most of them had an experience in learning one or two languages other than their first language. All participants had an experience in using Internet, but not necessarily for language learning. The instrument used was a paper-based questionnaire, reproduced at the end of this section.

Foreign language learning experience

All of the subjects have learned one or more foreign languages, and the languages they studied are seen in Table 3 below. Considering the fact that the survey was conducted in an English speaking country and native English speakers were only 25%, it may be reasonable that English is the second language studied by most of the subjects, followed by Japanese (38%), French (25%) and German (19%).

Table 2. Mother tongue

	%
Chinese	56
English	25
Hindi	13
Russian	6

Table 3. Languages learned as a foreign language

	%
English	81
Japanese	38
French	25
German	19
Russian	6
Arabic	6
Spanish	0
Chinese	0

Internet utilization for foreign language learning

From Table 4 and Table 5, it may be seen that while Internet played a role in language of acquisition for about half of the subjects, in most cases it was via regular sites with authentic materials, rather than via sites, specifically dedicated to foreign language

teaching.

Table 4. Role of the Internet in language acquisition.

Did the Internet play any role in your foreign language acquisition?

	% (f)
Yes	44 (7)
No	50 (8)
N/A	6 (1)

Table 5. Foreign language teaching web sites.

In your foreign language study, did you ever use a Web site specifically designed for language learning?

	%
Yes	19
No	81

As for the activities on the web, web browsing was rated high (4.2 out of 5), followed by email exchange in the target language (3.7). Internet chat was not recognized as being particularly useful for foreign language learning (2.4).

Table 6. Activities on the Internet.

What type of Internet activities do you perceive as useful in foreign language acquisition? Please, grade from 1 to 5 (5- very useful, 1- not useful at all).

	aver.
Browsing the Web	4.2
Exchanging Email in a foreign language	3.7
Discussion groups	3.0
Internet chat	2.4

Regarding the attitude towards using foreign language learning (CALL) sites for self-study, 75% answered positively, in case the sites are of a good quality. Almost everybody (94%) was in favor of Internet and multimedia utilization in classroom learning.

Table 7. Using Internet for self-study.

If you hear about a quality site, which is designed for studying your target language, would you access it?

	%
Yes	75
No	19
N/A	6

Table 8. Using Internet in the classroom.

If you were to participate in a language class, would you like the teacher to make use of the Internet and Multimedia based materials?

	%
Yes	94
No	6

While almost all of the participants indicated, that if they were to be in a position of a

language teacher, they would employ internet materials in one way or another, less than 20% indicated readiness to prepare materials by themselves. Most of the participants seem to be in favor of using Internet in classroom situation.

Table 9. Internet materials, prepared by the teacher.

If you were to teach foreign language, as a teacher, would you ...

Use existing Internet and Multimedia materials	69
Prepare your own materials	19
Don't use Internet materials in class, but recommend students to use them on their own.	19
Recommend students not to use Internet-based materials, but rather seek for opportunities to communicate with real people.	6

Comparisons with other language learning materials

Despite the overall interest in the use of the Internet for language learning, the subjects did not rate it as the first choice in any of the three lines of evaluation considered (Useful, Interesting, Easy). In particular, in terms of usefulness, Internet rated behind all other alternatives.

Table 10. Comparison of language learning activities.

In your opinion, how the Internet would compare with other ways of foreign language acquisition. Please, grade from 1 to 5 (5- very much, 1- not at all).

	Useful for language improvement aver.	Interesting aver.	Easy to use aver.
Internet	2.9	3.6	3.3
Reading books and newspapers	3.7	2.9	3.5
Television, movies and videos	4.1	4.3	4.5
Conversation with native speakers	4.6	3.9	3.0
Participating in a formal language course	4.0	2.8	2.6

Teacher's role in WWW assisted foreign language learning

More than half of the subjects answered that they want a teacher to monitor, evaluate and direct their study. About one third of the participants seem to have an inclination towards independent work, but still recognize the role of the teacher as an important one.

Table 11. Teacher's role.

If you use the Internet or Multimedia materials in foreign language study, would you

like a teacher to be available? (Please tick one.)

	%
I want the teacher to monitor and evaluate my progress, and to direct my studies	63
I'd like a teacher to be available to answer questions when I have them	31
I need teachers because I need a diploma. Otherwise, I may study better on my own	6

Survey results

Here are the full results of the survey.

The number of respondents: 16

1. Gender:

Female	38
Male	63

2. What is your mother tongue?

Chinese	56
English	25
Hindi	13
Russian	6

3a. Have you ever studied a foreign languages?

Yes	100
No	0

3b. If yes, which ones?

English	46
Japanese	21
French	14
German	11
Russian	4
Arabic	4
Spanish	0
Chinese	0

4a. Did the Internet play any role in your foreign language acquisition?

Yes	44
No	50
N/A	6

4b. What type of Internet activities do you perceive as useful in foreign language acquisition? Please, grade from 1 to 5 (5- very useful, 1- not useful at all).

	average score
Browsing the Web	4.2
Exchanging Email in a foreign language	3.7
Discussion groups	3.0
Internet chat	2.4

5. In your foreign language study, did you ever use a Web site specifically designed for language learning?

Yes	19
No	81

6. If you hear about a quality site, which is designed for studying your target language, would you access it?

Yes	75
No	19
N/A	6

7. In your opinion, how the Internet would compare with other ways of foreign language acquisition. Please, grade from 1 to 5 (5- very much, 1- not at all).

	Useful for language improvement	Interesting	Easy to use (do)
Internet	2.9	3.6	3.3
Reading books and newspapers	3.7	2.9	3.5
Television, movies and videos	4.1	4.3	4.5
Conversation with native speakers	4.6	3.9	3.0
Participating in a formal language course	4.0	2.8	2.6

- 8a. If you were to participate in a language class, would you like the teacher to make use of the Internet and Multimedia based materials?

Yes	94
No	6

9. If you were to teach foreign language, as a teacher, would you ... (Please tick one.)

Use existing Internet and Multimedia materials	69
Prepare your own materials	19
Don't use Internet materials in class, but recommend students to use them on their own.	19
Recommend students not to use Internet-based materials, but rather seek for opportunities to communicate with real people.	6

10. If you use the Internet or Multimedia materials in foreign language study, would you like a teacher to be available? (Please tick one.)

I want the teacher to monitor and evaluate my progress, and to direct my studies	63
I'd like a teacher to be available to answer questions when I have them.	31
I need teachers because I need a diploma. Otherwise, I may study better on my own.	6

Survey questions

1. Gender Female Male

2. What is your mother tongue?

English French German Spanish
 Chinese Japanese Other (please specify _____)

3a. Have you ever studied foreign languages (other than your mother tongue)?

Yes No Go to the question 4a

3b. If yes. Which ones?

English French German Spanish
 Chinese Japanese Other (please specify _____)

4a. Did the Internet play any role in your foreign language acquisition?

Yes No (Go to the question 5)

4ab. What type of Internet activities do you perceive as useful in foreign language acquisition?

Please grade from 1 to 5 (5 - very useful, 1 - not useful at all).

Browsing the Web 5 4 3 2 1

Exchanging Email in a foreign language
 5 4 3 2 1

Discussion groups 5 4 3 2 1

Internet chat 5 4 3 2 1

5. In your foreign language study, did you ever use a Web site specifically designed for language learning?

Yes No

6. If you hear about a quality site, which is designed for studying your target language, would you access it?

Yes No

7. In your opinion, how the Internet would compare with other ways of foreign language acquisition. Please grade from 1 to 5 (5- very much, 1- not at all).

	Useful for language improvement	for	Interesting	Easy to use (do)
e.g.) Going to Japan	4		2	2
Internet				
Reading books and newspapers				
Television, movies and videos				
Conversation with native speakers				
Participating in a formal language course				

8. If you were to participate in a language class, would you like the teacher to make use of the Internet and Multimedia based materials?

No

Yes

Go to the question 9

8b. If no, why?

9. If you were to teach foreign language, as a teacher, would you (please tick one).

- Use existing Internet and Multimedia materials
- Prepare your own materials
- Do not use Internet materials in class, but recommend students to use them on their own.
- Recommend students not to use Internet-based materials, but rather seek for opportunities

to communicate with real people.

10. If you use the Internet or Multimedia materials in foreign language study, would you like a teacher to be available? (Please tick one.)

- I want the teacher to monitor and evaluate my progress, and to direct my studies.
- I would like a teacher to be available to answer questions when I have them, but otherwise

I would rather work by myself

- I need teachers because I need a diploma. Otherwise, I may study better on my own.

A4 Strategies of Internet usage for Japanese teaching and the associated risks - learners' perceptions (a survey)

Objectives

The objective of this survey is clarifying two points. First, the attitude towards the web-based Japanese language learning, taking static and dynamic strategies into account. Second, the risks perceived by Japanese language learners in using Internet for Japanese language learning.

Contrary to the survey, presented in Appendix 3, this survey focuses on “Japanese language” and “Japanese language learners”.

Subjects

Readers of the following Internet news groups: sci.lang.japan, japan.lang.japanese and fr.lettres.lang.japonaise. Participants were offered to download Japanese learning software as a reward (intermediate level).

Questionnaire

1. Gender

Male Female

2. Age group

0-20 21-25 26-30 31-35 36-40 41-50 51-60 60+

3. My first language is

Chinese English French German Italian Russian Spanish
 Other ()

4. I studied foreign languages

Chinese English French German Italian Russian Spanish
 Other ()

5. My proficiency in Japanese is

Beginning Intermediate Advanced

6. I used Internet for Japanese language study:

- In a classroom with language teacher present
- At a language laboratory without language teacher present
- At home by myself
- Other _____

7. I used Internet for

- Kanji and Kana practice
- Grammar drills (Japanese)
- On-line dictionary (Japanese)
- Information collection while working on a project (Japanese - related)
- Email, chat (in Japanese)
- Other _____

8. The best way to use Internet for Japanese language study is

- Kanji and Kana practice
- Grammar drills
- On-line dictionary
- Information collection while working on a project
- Email, chat (in Japanese)
- Other _____

9. My main difficulty in using Internet for Japanese language study is

- No Internet access
- Computers are difficult to use and break down all the time
- Connection is too slow
- Web resources in Japanese are too difficult
- Not relevant to curriculum
- Other _____

10. When working on Japanese-related Web-based project I would prefer

- Working alone
- Working in a small group

11. What is the main risk in using Internet for Japanese language study

- Computer / network may break down
- Students can not use computers properly
- Students are distracted, and spend most of the time browsing non-Japanese resources
- Student may encounter inappropriate materials (sexually explicit etc.)
- Appropriate materials are not available on the Internet

12. Do you think the Internet will become a common tool for language education?

- Yes
- Probably
- No

13. Your opinion about using Internet for Japanese language learning

Survey results

1. Gender

	%	N
male	90	30
female	10	3
		33

2. Age group

	%	N
0-20	21	7
21-25	31	10
26-30	12	4
31-35	3	1
36-40	6	2
41-50	15	5
51-60	12	4
61-	0	0
		33

3. First language

	%	N
Chinese	3	1
English	45	15
French	39	13
German	0	0
Italian	3	1
Russian	3	1
Spanish	0	0
Others	2	2
		33

Others - Korean and Portuguese

4. Language studied

	%	N
Chinese	3	1
English	48	16
French	21	7
German	30	10
Italian	0	0
Russian	9	3
Spanish	18	6
Others	6	2

Others - Modern Greek and Korean

5. Japanese proficiency level

	%	N
Beginning	50	14
Intermediate	39	11
Advanced	11	3
		28

6. Place of Internet use for Japanese language learning (Multiple answer)

	%	N
In classroom	13	4
In language laboratory	10	3
At home	90	30
Other way (did not use)	3	1

7. Purposes of the Internet use

	%	N
Kanji, Kana practice	42	14
Grammar drills	42	14
On-line dictionary	61	20
Information collection	36	12
Email, chat	52	17
Others	12	4
NA	3	1

Others - Downloading Japanese games, Japanese language newsgroup.

8. Best way to use the Internet for Japanese language learning

	%	N
Kanji, Kana	6	2
Grammar drill	21	7
On-line dictionary	21	7
Information collection	18	6
Email, chat	27	9
Other	6	2
		33

Other - Downloads for off-line use, Reading Japanese texts/news

9. Main difficulty in using the Internet for Japanese language study

	%	N
No Internet access	3	1
Computers are difficult to use and break down all the time	0	0
Connection is too slow	12	4
Web resources in Japanese are too difficult	45	15
Not relevant to curriculum	15	5
Other	21	7
NA	3	1
		33

Other - I have no real problem, No problem, implementing DBCS on PC, Web resources too scattered, No difficulty Internet is O.K., No comprehensive sites, not enough resources available

10. Favorite style of Japanese related web-based project working

	%	N
Working alone	79	26
Working in a small group	18	6
NA	3	1
		33

11. Main risks

	%	N
Computer/Network may break down	6	2
Students cannot use computers properly	9	3
Students are destructed	27	9
Appropriate materials are not available on the Internet	39	13
Others	9	3
NA	9	3
		33

Others - Lack of feedback, weak speaking and listening skills.

12. Future perspective

	%	N
Yes	30	10
Probably	52	17
No	12	4
		33

A5 *Teacher's beliefs*

Database of teacher's beliefs was collected by (Murphy 2000) on the basis of statements, made by teachers, participating in two e-mail lists. Mail list participants were aware, that e-mail lists are being used for the purpose of extracting teacher's beliefs, related to the use of the Internet in second and foreign language teaching. The researcher participated in the discussions. Participation of the researcher was minimal (mainly, as an initiator).

Apart from the e-mail lists, some additional information was collected from open-ended questionnaires and phone interviews.

All teacher statements, which could be identified as beliefs by the researcher, were included as entries in the database. The teacher statements were not modified in any way (even grammatical and spelling mistakes were left uncorrected). The database was published as Chapter 5 of (Murphy 2000).

The subjects of the study were mainly French language teachers all around the world. The result is clearly relevant for Internet - based teaching of any language, including Japanese, as none of the beliefs we examined were specific to French teaching. (Some of the experiences, described by the teachers, the ones relating to teaching language that differs from the one, which dominates the Internet, are obviously not relevant to teaching English.)

The objective of (Murphy 2000) was to determine the main categories of teaching beliefs. Our study does not concern itself with teachers beliefs in general, but rather is concerned with Internet usage strategies and with associated risks. For the purposes of the current study, we completely disregarded analysis, conducted in (Murphy 2000), and reviewed the database from the point of view of our own objectives.

The database was reviewed to determine beliefs, relating to different aspects of Internet usage strategy. Also, we identified the beliefs, expressing the risks associated with the use of the Internet for language teaching. The beliefs identified are given in tables 12, 13 and

14 below. The beliefs in the tables are numbered for reference purposes in the order they appeared in the database, no attempt of reordering or sub-grouping was undertaken.

Since the beliefs are expressed by practicing teachers, the database of teachers beliefs allowed us a rare opportunity to analyze data on Internet usage and its perception in the real classroom. On the other hand as the teacher's technical knowledge is relatively limited, their beliefs did not cover all range of possibilities, both in terms of the strategy and in terms of risks.

Table 12. Beliefs, relating to the static model (or to the static component of the dynamic model)

1	Internet offers better collection of language-related resources than libraries or other traditional resource centers
2	Internet - based on-line dictionaries used in the classroom
3	Fast access to information - ability to promptly research answers to questions
4	Use of on-line search facilities
5	Multimedia features of Internet are beneficiary for language teaching
6	Anonymity of the on-line environments leads to increased activity of (ordinarily, shy) students
7	Using an Intelligent Tutoring System (ITS) on-line
8	Experience of students with Audio-Visual environments, such as videos and computer games, is a factor in their acceptance of the Internet as a learning media
9	Internet allows to adapt learning experience to individual needs (or level) of the students
10	Internet encourages students to take a more active role
11	Internet used for listening activities
12	Internet as a means to develop understanding of the culture behind the target language

Table 13. Beliefs, relating to the dynamic model

1	Authentic (non-educational) materials used on-line
2	Up-to date character of Internet materials makes them particularly valuable for teaching, as it generates interest and discussion among students
3	Internet materials are used in project - based work
4	Cross - disciplinary teaching (target language and some other subject simultaneously)
5	It is beneficiary for language study when students create multimedia content in the target language
6	Communication over Internet in the target language
7	Internet provides an opportunity for students to apply their language skills
8	Internet provides a chance to communicate with native speakers of the target language
9	Real-time communication in the target language over the Internet
10	Communication over Internet between students, working on a project
11	Publication of student's work on the Internet
12	Internet allows students to be creative
13	Internet encourages life-long learning
14	Internet encourages student autonomy
15	Internet use in the classroom forces a teacher to take on a less dominating role (facilitator, rather than a disseminator of knowledge)

The first thing one notices when looking at the data in tables 12 and 13, is the prevalence of the dynamic model. The use of on-line Intelligent Tutoring System was mentioned in the database only once. While beliefs in table 12 are relevant to both static and dynamic models, mostly they do not refer to the core of the static strategy, which is the use of a teaching “intelligent” computer program. One should note, that teachers did not reject the static model in the favour of the dynamic model, no beliefs in the database could be interpreted this way. Rather, it seems like teachers did not have a chance to consider it, as Internet based CALL systems were either not available or were not noticed by them.

Belief, that Internet is a good source of relevant information, was expressed quite strongly, in different forms (e.g. 1, 2, 3 in Table 12).

Belief, that the Internet provides vast opportunities for communication with the native speakers was quite prevalent (8 and 9 in Table 13). Many of the statements in the database imply, that the belief is based on real experience. However, as the database was to a large degree compiled based on the statements by teachers of French in Canada, one should be cautious about extending it to the case of teaching Japanese. French Canadians are likely to have interest and cultural background and interest, similar to Canadian English speakers, thus, there are no cultural barriers to overcome. Japanese are culturally rather far from, say, English speakers in New Zealand, and finding common topic and common understanding might be much more of a challenge.

Table 14. Beliefs, relating to risks

1	Internet - based teaching requires more preparation time than classical teaching
2	When Internet connectivity is available, students tend to be distracted by surfing areas, unrelated to the target language
3	It takes too much time for a teacher to master the Internet technology
4	Internet distracts from covering the prescribed curriculum properly
5	Difficulty with on-line teaching due to poor students' typing skills
6	It is difficult to match Internet - based activities with the existing curriculum
7	Fast pace of technological change is a hindrance in using Internet for language teaching
8	The use of Internet in teaching increases the element of uncertainty in the classroom
9	Lack of technical support is a hindrance to the use of Internet for language teaching
10	Teachers feel nervous / uncomfortable about using Internet in the classroom
11	Teachers should learn the technical side of computing before starting to use Internet in the classroom
12	Teachers should be trained in educational aspects of using Internet for language education before using Internet in the classroom
13	Lack of administrative support is a hindrance to the use of Internet for language teaching
14	Lack of support from colleagues (other teachers) is a hindrance to the use of Internet for language teaching
15	The throughput of the Internet connection available is insufficient
16	Access of students to computers is insufficient (too few computer, administrative obstacles etc.)
17	Language teaching is considered to be low priority when computer lab time is allocated (comparing to science, math, business etc.)
18	Computers / network reliability is insufficient
19	Students access sites, irrelevant to the task given
20	There is a danger of students strolling in to sites with sexually explicit material
21	If Web sites to be used are not found, pre-viewed and given to students by the teacher, students will not be focused on the project task
22	Students resist constructivist teaching approaches
23	Learning computer usage and a foreign language at the same time puts students under excessive stress
24	Students feel anxiety about using computers
25	Materials available on-line are too difficult for the students to grasp
26	English is too prevalent on the Internet, it is difficult to teach any other language, since students tend to stroll into English language sites
27	Usability of the Internet is too low for it to be used in language education

Beliefs relating to risks, associated with using the Internet for language teaching, were very well represented in the database.

It should be noted, that most of the beliefs correspond to risks that can be easily mitigated (such as technical problems) and are likely to become less of a factor in the future. We did not encounter beliefs, which would indicate a rejection of either Internet use or constructivist teaching practices on a principal basis. Many critically inclined teachers seem to take a view that Internet could be mildly useful, but its use is not justified under present circumstances.