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Evaluation of On-demand Network and Portable Dictation System for Japanese Instruction

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This paper describes an evaluation of an on-demand network and portable CALL (computer assisted language learning) system for Japanese speech. In the system, online dictation tests are carried out for speech materials of Japanese sentences, words, syllables, consonants, geminates, long vowels and different accent words. The records of question and answer in the dictation test for the system are automatically stored in a log file in web server so that history and score for learner are available in tutorial language learning.

The system can be used at any time, in anywhere and for anyone so that it is very suitable for busy learners in the world. The programming language for the system is Java so that the system is used for multi-platform such as a personal computer, a work station and an information toy, and different OS such as Windows, Macintosh and UNIX. Also multi-language is supported by the use of Unicode such as English, Japanese, Chinese, Korean and Malaysian in the system. The test levels are 6 for beginner, intermediate and expert learners. And display types for buttons are 7 such as 3 tables of 98 characters in Roman, Hiragana and Katakana and 4 items of words in English, Roman, Hiragana and Kanji. A method of answer of dictation quizzes is a selection of button's items or keyboard input for English, Roman, Hiragana and Kanji characters. For the test of sentences, the former method is available for beginners and the later is useful for detail test by expert learners.

In the system, the number of materials for sentences, words, syllables, consonants, geminates, long vowels and accent are 31, 30, 98, 13, 18, 25 and 42, respectively. The materials for consonants are 13 minimal pair words such as [kenki], [genki], [penki], [benki] and so on. The materials for long vowels are 18 pair words such as [ozi:san] and [ozisan]. And the materials for geminate are 25 pair words such as [itto:] and [ito:]. The long vowels and geminates are one of Japanese special morae. Japanese accent is pitch type and the patterns in fundamental

frequency are low (L) and high (H). For example, the words of 2 morae have 3 accent types such as HL(L), LH(L) and LL(H). The special mora and accent are important for Japanese speech learning.

The on-demand network system is now available on the World Wide Web server, the URL is <http://sp.cis.iwate-u.ac.jp/sp/lesson/j/index.html>, since in June 1997. The system is called as LESSON/J for the reason of Japanese Language Education System for Speech on an On-demand Network. The network system was accessed about 30,000 times from 75 countries for two years. The rate of the accesses from foreign countries is about 70%. The top 5 countries for accesses in order are U.S.A, Canada, Italy, Australia and Korea. Specially, in November 1998 and May 1999, many students in Canada accessed on Internet at the beginning of Japanese lecture. They accessed the network system via the network in not only their university but also homes. From these results, a virtual school for language learning on Internet is realized in the On-demand network system.

The portable and advanced language learning system for Japanese is named as PAL/J and is consisting of a general notebook computer and an audio headphone. The portable system is used by foreign students in a lecture room, student's home and other places. Experiments of a dictation test are carried out for 8 Chinese students and 2 Malaysian students using a portable computer every 2 weeks. For one Chinese student after the first 2 weeks, scores for words, consonants, long vowels, geminates and word accent were 83%, 33%, 72%, 59% and 53%, respectively. After hearing training for 2 months, scores are 86%, 90%, 94%, 100% and 90%, respectively. Specially, the scores for consonants are highly improved, and voiced and unvoiced stop consonants (/p/, /t/, /k/, /b/, /d/ and /g/) are mutually confused, because Chinese students usually uttered aspirated and unaspirated sounds. The minimal pairs of consonants are effective for Japanese ability evaluation of Chinese learners. Some learner is ashamed of his wrong answer in the lecture rooms, but is not in private using the portable system. It is one of advantages for the portable language learning system.

オンデマンドネットワーク型およびポータブル型日本語音声教育システムの評価 三輪 譲二 (岩手大学)

いつでも、どこでも、だれにでも、手軽に利用できるオンデマンドネットワーク型 およびポータブル型日本語音声教育システムの概要と評価結果を述べる。システムは、日本語の単音節、単語、基本文、子音、特殊拍(長母音、促音)、単語アクセントの7教材の聞き取りオンライン試験であり、ネットワーク型では、約2年間の運用で世界75か国から約30,000回のアクセスを受け、多忙な学習者に役立つ、ポータブル型では留学生の教育に役立った。