

# On Computer Use in Second Language Learning

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## 1. Introduction

The history of CALL (Computer Assisted Language Learning) has progressed with the transition of teaching theory. Warschauer (1996) said that CALL development can be categorized into three distinct phases: behavioristic CALL, communicative CALL, and integrative CALL. Such categorization is reflected by learning theory at each phase.

In the 1960s and 1970s, behaviorist theories of learning were dominant and computers were used as “tutors” for repetitive drill practices. In 1970s and 1980s, the communicative approach of learning second language became popular and computers were used as “stimulus” as well as “tutor.” For example, learning activities such as paced reading, text reconstruction, and language games were included in courseware (Warschauer 1996). And the computer would display a stimulus such as foreign vocabulary word and the student would select or enter a right answer (Morrison & Lowther 2002:2).

Today, student-centered learning and meaningful learning are stressed, and computers are used as a “tool,” making full use of the modern technology of the Internet, multimedia, hypertext, hypermedia, and CMC (Computer Mediated Communication), etc..

However, effective use of computers would be quite different according to the level of learners. When learners need to acquire basic level vocabulary and phrases, drill-and-practice software could be efficient for their rote-learning. On the other hand, advanced learners could use a computer as a tool, actively processing and manipulating information in the target language via the computer.

The following sections of this paper is concerned with the practical aspects of using a computer for second language learning. In section 2, a network-based program is taken up and its content as courseware is examined. In section 3, making more use of computers is taken into

consideration. And in section 4, some problems in using computers for educational purposes are discussed.

## 2. Description of Courseware

In this section, a piece of courseware is described in detail. As computer-based lesson materials, here I introduce a Website located at: <http://a4esl.org/>. This Website is for learners of English as a second language. It contains language activities including more than 1,000 quizzes, exercises and puzzles. It offers every level of language activities. Novice, intermediate, and advanced learners can study English with this site for free. To use this Website as courseware in the language classroom, we need computers with which we can access the Internet. The class size should be limited to the same number of students as computers or less. Since the teacher must supervise the overall activities in the class, a small class size would be appropriate.

In the home page of this Web site, there is a menu, from which the learners can select the lessons in terms of: 1) Category, 2) Browser Requirements, and 3) Two Languages. Also there are a few sub-options to choose under each category, as cited below.

In Figure 1, there is a sub-category of “Japanese-English” under the category of “Bilingual

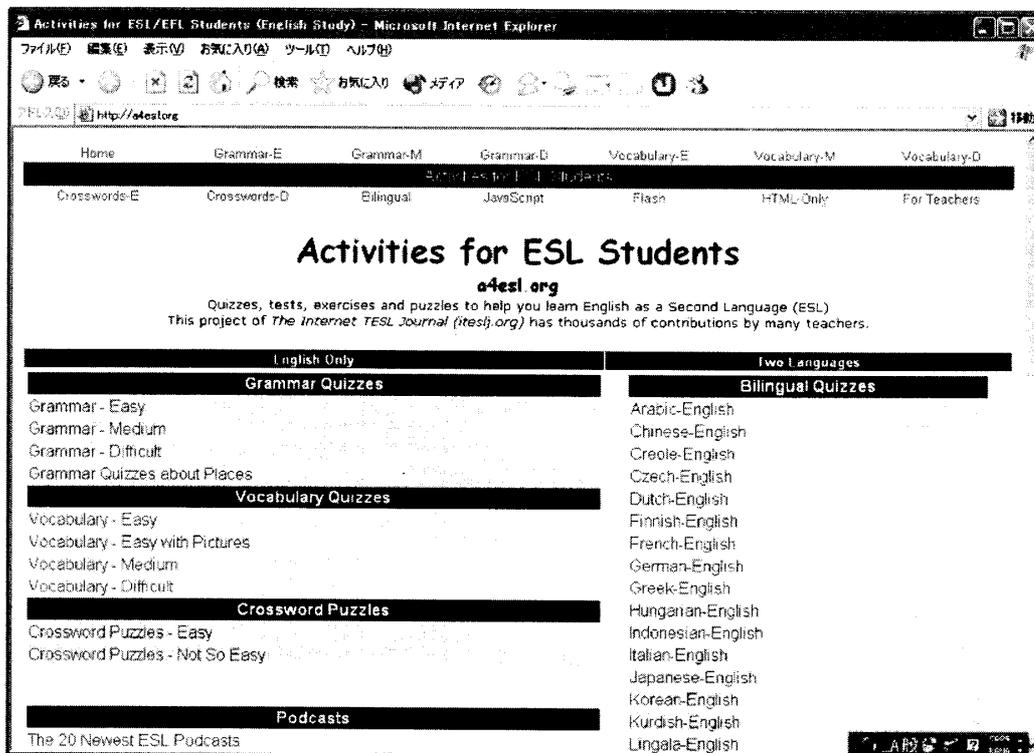


Figure 1

Quizzes.” Clicking “Japanese-English,” we proceed to various kinds of English-Japanese and Japanese-English vocabulary quizzes. On the top of these pages of practice, a table of contents of this Website is attached, which makes it easy for us to go back to the home page and other kinds of exercises. On the first page of the English-Japanese and Japanese-English vocabulary quizzes, we have an option to choose “Romanized Japanese to English (No Japanese Font Required)” or “English to Japanese (Japanese Font Required).” The exercises listed on this page are grouped according to their contributor, as shown below.

Quiz Data Contributed by Charles Kelly.

Quiz Data Contributed by Kelly Quinn.

Quiz Data Contributed by Takeshi Oi.

Quiz Data Contributed by Satoru Shinagawa.

Quiz Data Contributed by ALC.

Quiz Data Contributed by Jim Breen.

In Quiz Data Contributed by ALC, there are exercises of “Idiomatic English Expressions (366).” Look at Figure 2 below.

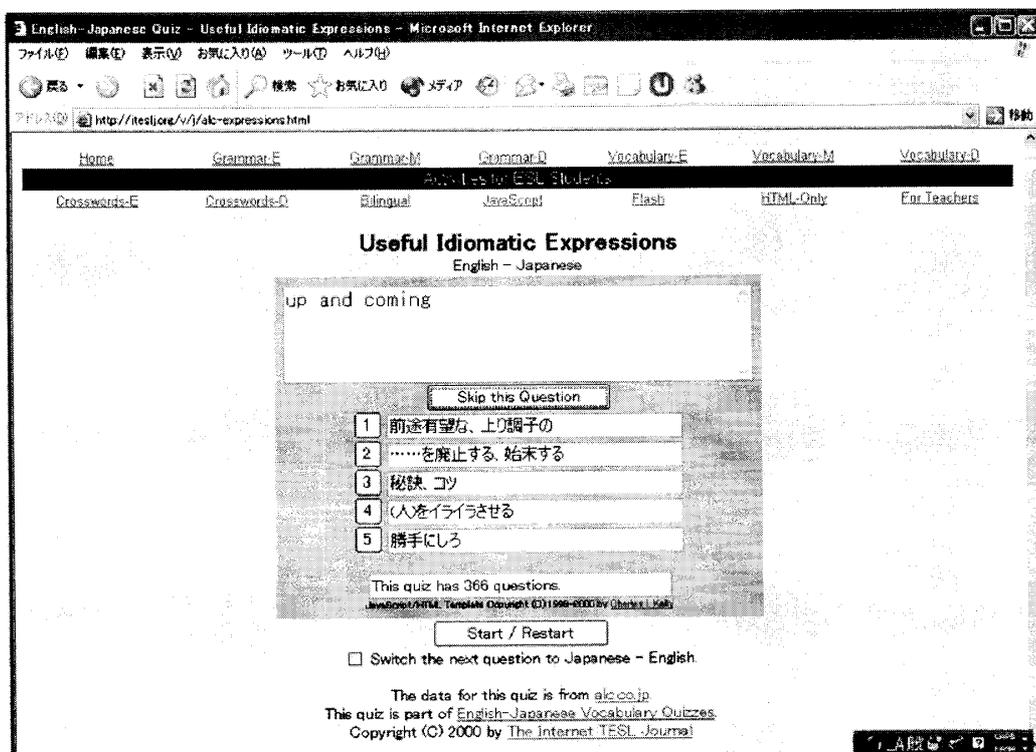


Figure 2

This quiz has 366 questions. The number of question in one quiz is too many to finish within a moderate length of study time. Less questions such as 20 to 50 might be appropriate for the learners to keep their interest and concentration. In this quiz, an English idiomatic expression is displayed on the top, and we choose the right meaning in Japanese among 5 options. For example, the answer to the question “up and coming” in Figure 2 is no.1 (前途有望な, 上り調子の). As soon as no.1 is clicked, we are informed whether the response is wrong or correct. At the same time, the percentage of correct answers is shown immediately. When you get a wrong answer, the screen turns to gray and the right answer is shown just below the idiomatic expression, as in Figure 3 below.

Moving on to the Quiz Data Contributed by Kelly Quinn, learners can study words for academic purposes according to 11 levels of difficulty.

#### Japanese - English

1870 General Service English Words with Japanese Translations

#### Japanese - (Reading Hints) - English

Words for Academic Purposes - Level 1

Words for Academic Purposes - Level 2

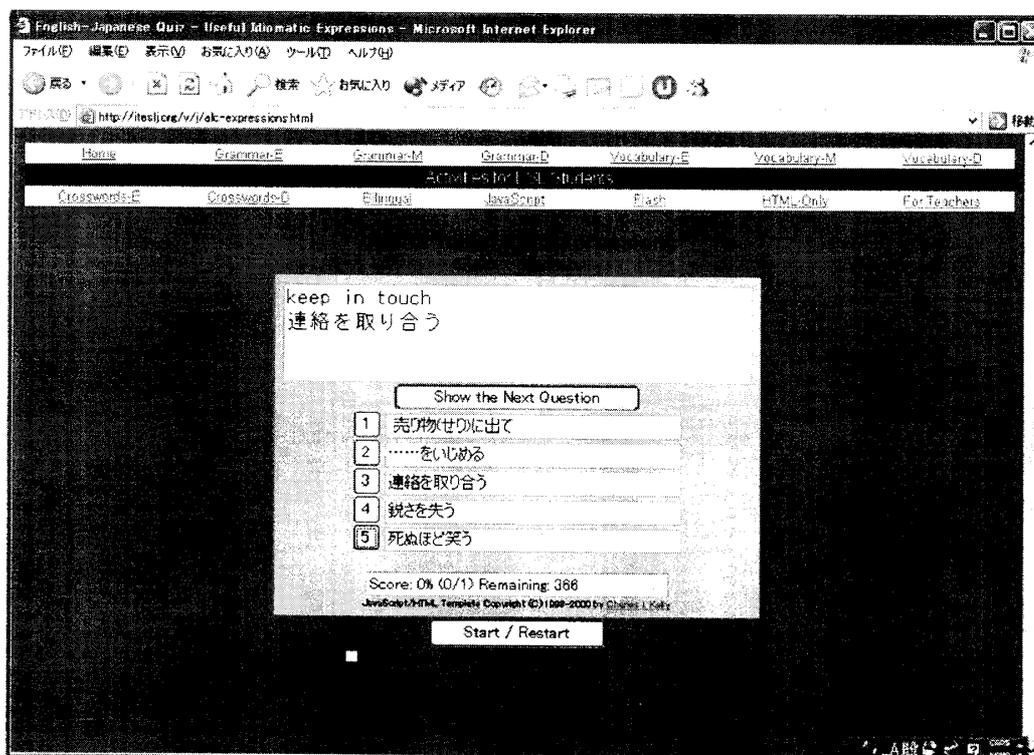


Figure 3

- Words for Academic Purposes - Level 3
- Words for Academic Purposes - Level 4
- Words for Academic Purposes - Level 5
- Words for Academic Purposes - Level 6
- Words for Academic Purposes - Level 7
- Words for Academic Purposes - Level 8
- Words for Academic Purposes - Level 9
- Words for Academic Purposes - Level 10
- Words for Academic Purposes - Level 11

When you click “Words for Academic Purposes- Level 1,” the exercise begins like the following. Here again, five choices are given from which learners can choose. When we start the first question of this quiz, we know that this quiz has 81 questions from the display of the bottom. This is a discouraging way of showing the number of questions. Most learners want to know the number of questions before they begin so that they can choose the appropriate quiz for the amount of time they have. Every time the learner answers a question, the score and the remaining number of questions are displayed at the bottom. By clicking “Start / Restart” button, the learners

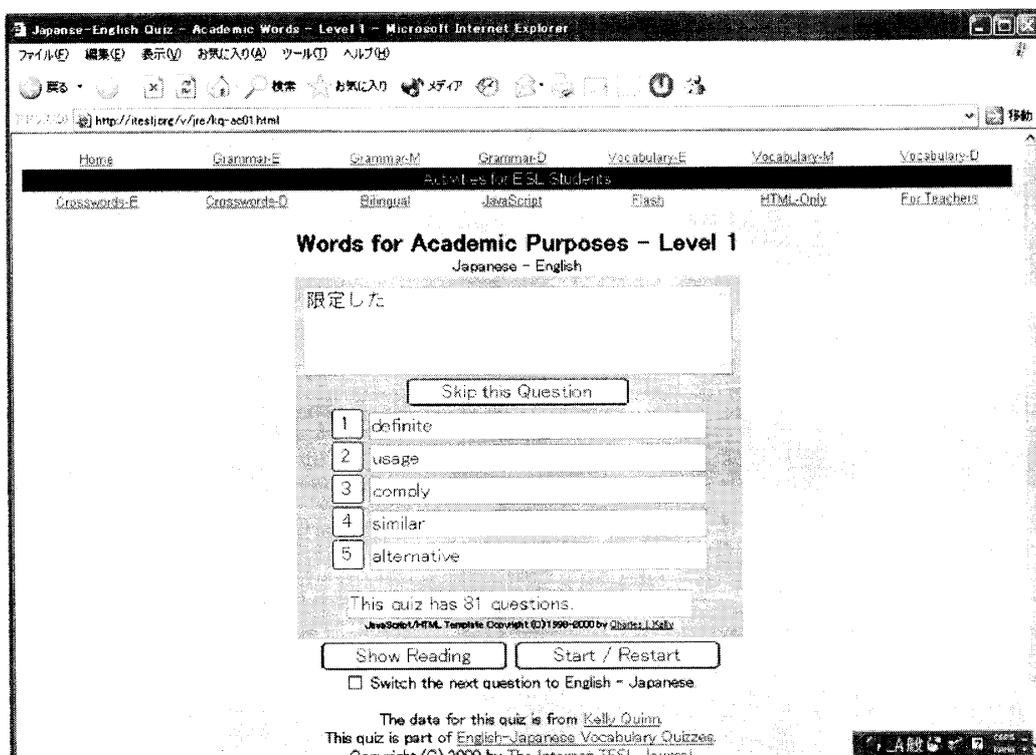


Figure 4

can restart the quiz. However, since the questions are shuffled and the order of the questions is changed in restarting, they cannot go back to the same question whenever they want. This makes it difficult for the learners to ascertain the questions they have already completed.

Now, let's look at another type of quiz. Going back to the home page, we have a headline "Grammar quizzes," which has three levels of exercises, i.e., Easy, Medium, and Difficult. Clicking "Easy," we see that various kinds of exercises are included in this page. And the headlines listed on this page show that the questions are grouped in terms of parts of speech and grammatical subjects. Clicking "Prepositions: At, In and On (Nuala Ivic) - JavaScript, 3 Choices, 41 Questions," we have the following screen (Figure 5).

To integrate this quiz into the language classroom, teachers might use it for supplementary practice to acquire grammatical usage. After studying meanings and basic usage of these prepositions in class, students can make sure of their knowledge by working on such questions as in Figure 5. The contents of this Website are generally coherent, consistent, correct and authentic. In choosing the most appropriate activity from these materials, teachers should consider the following points: the objectives of activity, suitable level of difficulty for learners, and moderate number of exercises, etc.. It is teachers' responsibility to make sure the courseware's exercises and questions are appropriate and suitable to learners. And the important thing is that teachers

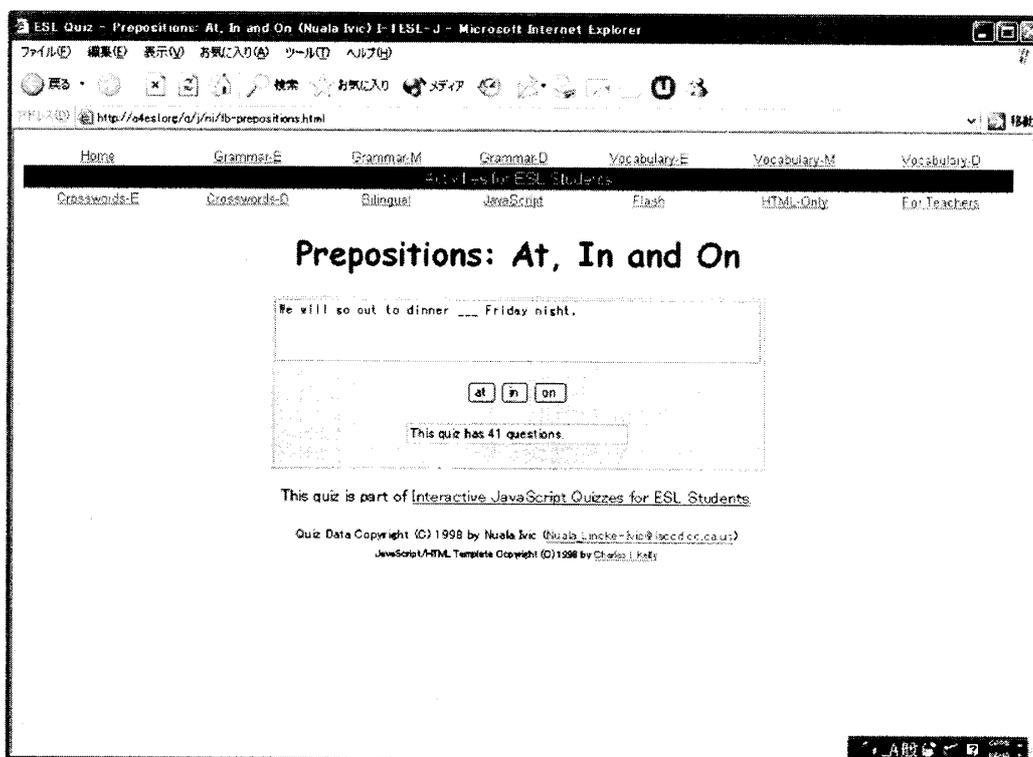


Figure 5

should control the way courseware is used, knowing its strengths and weaknesses, and making the most use of it in a class. Also, they should know an extensive range of courseware, a stand-alone program or a network-based program, to provide learners with the most appropriate learning activities, which match their current needs and interests. If learners can relate learning activities in courseware to what they have learned in the class, the educational effect will be increased. Teachers should have responsibility to make up for weak points in courseware. For example, in Figure 3, when a learner clicks an incorrect answer, the right answer comes up immediately with a bit of a startling flash. There is no explanation or feedback to the incorrect answer, leaving the learner not knowing the reason why it is correct. More encouraging feedback on the learner's response should be given. In many cases, it is through this kind of feedback that tutorials of courseware create and maintain learner's motivation and interest. Learners studying with computers need to be motivated and encouraged by active learning through meaningful feedback. Therefore, teachers should give them some feedback that is lacking in the courseware by checking the results of each learner's activity.

Learners also need appropriate external links. When they want to have more explanations or detailed information on some points, the related external links would make their activities more fascinating and useful. For instance, to get answers to the questions, as in Figure 2 and Figure 4, on-line dictionaries of English-Japanese and Japanese-English would be quite helpful.

### 3 . Further Use of Computer for Second Language Learning

One of the disadvantages to learning a foreign language is that only a few students have opportunities to be exposed to the target language and target culture. But modern technology allows them to have simulated experiences of living in a target country without leaving their home country. Making use of visual media such as video, television, CD, DVD, and all the opportunities that the Internet provides is very useful especially to advanced learners who don't live in the target country. I take up an example of such media in the following.

An example of how hypermedia can be used for language learning is the program *Duskin*. The program is a simulation of a student arriving at an U. S. airport. The student must go through customs, find transportation to the city, and check in at a hotel. The language learner using the program assumes the role of the arriving student by interacting with simulated people who appear in video clips and responding to what they say by typing in responses. If the responses are correct, the student is sent off to do other things, such as meeting a roommate. If the responses are incorrect, the program takes remedial

action by showing examples or breaking down the task into smaller parts. At any time the student can control the situation by asking what to do, asking what to say, asking to hear again what was just said, requesting for a translation, or controlling the level of difficulty of the lesson (Warschauer 1996).

The abilities of second language learners improve when learners use that language as a tool. Moreover, in order for second language learning with computers to be meaningful, learning something interesting or something intellectual “through the target language” with computers is desirable. When learners use the target language as the media for them to learn what they don’t know, or what they want to know about, they can better acquire the target language. Virtual learning or distance learning through the Internet gives us the chance to learn second language in that way. That is, learning content areas in the target language is made possible through having computers in the learning environment.

Through the Internet, we can access university libraries and download digitalized books and articles. Communication is also possible via an e-mail or chat room on the Web, though it is asynchronous. If you use programs such as MOOs, you can have a synchronous conversation with people all around the world (Warschauer 1996). And we can use authentic learning materials in the target country. Thus, computers have possibility to overcome some of the disadvantages of learning the second language without living in the target country. It is expected that using computers gives us opportunities to be exposed to, and more fully immersed in the target language than possible in the past.

Some other advantages of learning with computers are:

- 1 Learning through the Internet requires students to be very active.
- 2 Student-centered approach in an open-ended environment with computers makes every student to be a researcher.
- 3 This approach places more responsibility on the learner.
- 4 Each individual needs to learn the new knowledge, and s/he also has to have the problem-solving ability.

Thus, one of the main effects of learning with a computer is that “students are more likely to have a better understanding of the problem and solution than students in a direct teaching environment (Morrison & Lowther 2002:9).”

Also, using computers could increase students’ motivation, as Morrison & Lowther (2002:12) insisted below:

The use of technology in group work also provides the opportunity for students to educate one another. For example, if a student is unfamiliar with web browsers, the

teacher might decide to assign that student the responsibility for locating web sites on a given topic with the support of a knowledgeable student sitting by his side as they work. The learners are empowered as they acquire new skills, and the student serving as coach becomes empowered through the opportunity to educate others.

On the other hand, there are some disadvantages of using computers. As LeLoup & Ponterio (1998) rightly pointed out, "the problem with Internet-based multimedia is that images, sounds, and videos need relatively large files that take a long time to download. This waiting period slows down the interactions between the student and the materials, wastes time, and creates an uncomfortable impression." And learning some content areas in the target language via the Internet is good for only motivated, advanced learners.

#### 4 . Remaining Problems

There are numerous problems to consider in using computers for educational purposes. First of all, computers should be used for meaningful learning. Without meaningful learning, we cannot expect the benefits of learning. On the importance of meaningful learning, Ausubel (1968:61) stated that: "the acquisition of large bodies of knowledge is simply impossible in the absence of meaningful learning." As well as other subjects, every class which uses computers should offer meaningful learning activities to students. Language learners can develop their listening ability through listening, speaking ability through speaking, reading ability through reading, and writing ability through writing. CALL classes should be full of such activities and tasks. Moreover, in order for learning to be efficient, topics and materials must be meaningful. If topics and materials were meaningful to learners, they could learn them more easily. And the new knowledge can be integrated into the learners' cognitive network more easily and retained for longer periods of time. On this point, Morrison & Lowther (2002:9) insist that "providing a meaningful context for teaching significantly improves student achievement." To offer meaningful context to learners in using computers, the following points should be taken into consideration.

- 1 ) Does CALL material match the current needs or interests of students?
- 2 ) Can learners relate it to their present knowledge and integrate it into their cognitive structure?

By asking these questions, just busy work that is not meaningful to them should be avoided.

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