1. Project Title
Computer-assisted Language Learning

2. Activity Summary

An overview

The current project used innovative teaching technologies that can better assist students with foreign language practice both at home and in the newly built Foreign Language Technology Center. During the proposed period, we created two kinds of computer-assisted learning software that students may use for preparation or review. One is “J-Tutor,” a series of semi-interactive expression drills, created by an authoring software called Revolution. The other is a set of PowerPoint slides for an introduction to grammar.

Platforms: Use of Revolution for Authoring J-Tutor and PowerPoint for Grammar

In the original proposal, the drill software was to use PowerPoint as a platform. As the project made progress, however, we changed the platform from PowerPoint to a newly authored shell for language drills, J-Tutor. We also changed the platform for the grammar introduction from videotaped lectures to a PowerPoint presentation in order to incorporate some degree of interactivity in the grammar presentation as well. Details are shown below.

J-Tutor
As we began scripting our teaching materials, we noticed that PowerPoint offers limited flexibility in creating drill questions; when one uses PowerPoint as a learning tool, the instructor must manually write everything on each slide and future modification to it would be inefficient. Furthermore, the incorporation of multimedia files was not straightforward because such files made the PowerPoint presentation slides very large, which is inconvenient in terms of storage and portability. Thus, with the help of Foreign Language Technology Center, we created J-Tutor for interactive drills.

J-Tutor based learning tool, a set of drills, for courses in Beginning Japanese I and II were created. For all the chapters in Beginning I and II, we created J-Tutor drills that enable students to practice written and spoken answers. Once students see the question visually, they can either speak their response aloud and confirm the answer visually or type in their response and compare with the written answer. Also, experimentally, we added spoken questions and answers for some of the sections so that students can use the drills totally orally. The use of sound in the drill worked very well.

The J-Tutor program has the potential of incorporating digital images or short movies, which facilitate the inclusion of more culturally anchored activities.

**PowerPoint Grammar Slides**

The PowerPoint-based grammar slides were also created for all the chapters in Beginning I and II. They provide a concise introduction to each grammatical construction and give a series of step-by-step grammar exercises. They do not replace the existing lectures, but are to be used as class preparation or for review at home. Because students control the appearance of the instruction of the rules, the sample questions, and their answers, these slides are also semi-interactive. If necessary, a limited amount of audio and movie files may be added as well.

**Piloting the Software and Receiving Feedback**
The beta version of J-Tutor was introduced to the students of Beginning Japanese II during the Winter quarter, 2004-5. Based on verbal feedback we received during the in-class activities at the Foreign Language Technology Center, we modified the software in several stages. As the beta version improved, toward the end of the modification, we administered a written questionnaire. Overall, the students found the use of buttons and practice fields easy: 4.24 average with a 6-point scale, 1=strongly disagree, 6=strongly agree (N=34). The students were asked to practice the drills in three ways: reading the question and thinking of the answers silently, reading the question silently and answering aloud, and reading the question silently and writing the answer. They all found all three types of activities helpful, with averages of 4.11, 4.52, 4.26, respectively, on a 6-point scale (N=34). The written answer option may have shown lower results because at that point the software recognition of the characters was not working correctly all the time. This problem was later resolved.

The PowerPoint grammar slides were uploaded to myCourses for Beginning Japanese II during the Winter Quarter, so that students could download the read-only version to their computers. While it was a little harder to measure the effects of the grammar introduction and review, because the students decided to use them for review on their own, many found them very useful.

The students found J-Tutor especially helpful when they learned new predicate forms such adjective and verb conjugations. The students overall wanted to continue using it beyond Beginning II as well.

3. Dissemination of the Project

Currently, Japanese J-Tutor for Beginning I and II are downloadable from the Foreign Language Technology Center Website, under Japanese/recourses. Regardless of their course registration status, RIT students are able to download the software and use it. They cannot modify the program since the uploaded programs do not allow students such access. It is planned that instructors of Beginning Japanese I and II will make use of the software productively in their courses during 2005-6.
Furthermore, J-Tutor is a drill practice shell that assists in the presentation of instructions, questions, and answers regardless of language. Thus any foreign language instructor may use it as long as they can format the question and answer in a Word file. In order to introduce J-Tutor to instructors of other languages, during the spring quarter, 2004-5, we gave a presentation to faculty members of the Department of Foreign Languages. Some faculty have already expressed interest in employing J-Tutor in their language as well.

4. Use of J-Tutor and PowerPoint slides for Student Success

For students in the beginning stages of foreign language learning, a mastery of the previous step is essential to the success of the next step. Yet individual differences among students make it difficult to ensure everyone masters one concept before the class proceeds to the next concept. The J-Tutor and PowerPoint slides are particularly beneficial for those learners because they fill the gap between classroom instruction and individual variation in learning.

The issue of individual learning style and pace is perhaps more considerable for deaf students that are learning foreign languages. Since the two programs have a completely written option, they are useful tools for NTID students as well. It is hoped that the productive use of these two software will be carefully considered for both hearing and deaf students in future instruction.

5. Summary and future Tasks

We have accomplished the goal of providing two kinds of computer-assisted learning tools for students. We have exceeded our original plan by increasing the interactivity of students and adding flexibility by changing platforms. The initial feedback from students was overall very favorable.

There are a few issues that may be addressed in further development of the project. The first is adding an audio-track to all elements of the presentation. The students who used the programs found the written question and answer format helpful; but overwhelmingly they
preferred to practice orally. While they can give answers aloud with the current version, some prefer to have the questions asked in spoken language, so that their practice becomes entirely oral. The difficulties are file size and the fact that recording each stream segment involves intensive human labor; nevertheless, it is hoped that audio track will be completed as another project. The second issue is pedagogical. The students in Beginning II that used J-Tutor expressed a strong interest in continuing the use of it in Beginning Japanese III. Considering the fact that Beginning Japanese I, II, III are regarded as one super-segment of beginning Japanese, it is desirable to add J-Tutor and the PowerPoint Grammar Slides for additional courses such as Beginning III and Intermediate Japanese. Finally, many students found the appearance (color, type of fill, design, etc.) rather unattractive. This was expected considering a student population that is very savvy in computer graphics. Since making changes to the design and color is as simple as changing the slide design of PowerPoint, any potential instructor who wishes to employ the software as a part of their instruction may want to control the appearance to suit to their students’ taste. Another possibility would be to solicit students' feedback strictly on the visual presentation of J-Tutor to improve the overall appearance of the program.