

# Developing a Computer Assisted Listening Courseware Using Digital Videos

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CAI/CALL has recently become a topic of great interest in language learning. It has been recognized as one of the effective ways of learning languages. This paper reports the development of a computer assisted listening courseware *Hyper Video* designed to help learners develop their listening skills. In this system learners go through tasks to show their comprehension, while they are being presented with a series of naturally spoken discourse in the form of digital videos on the computer screen. The responses of the learners are quickly evaluated and scored by the computer. The knowledge of results is soon fed back to the learners. It is hoped that this courseware will be effective in improving learners' listening skills.

## 1. Introduction

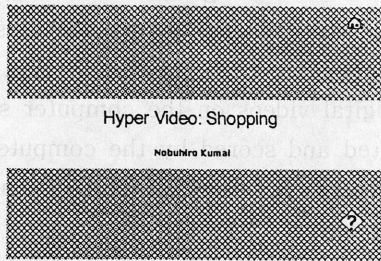
With the introduction of the New Course of Study by the Ministry of Education in 1993, which puts much more emphasis on listening than ever, how to teach listening has become a very significant issue in language teaching. However with more than 40 students in one class, it is fairly difficult for the teacher to conduct a listening course, because the level of the listening ability greatly differs from one student to another. Here the individual learning assisted by a computer is called for. It is assumed that it can help learners develop their language skills effectively. CAI system can also give slow learners a good chance to study at their own pace. The author began to make a CAI courseware for listening after a Macintosh computer was introduced in the English department.

## 2. Design of the courseware

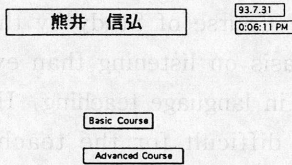
This program is a drill-practice-type courseware using HyperCard and QuickTime technology. HyperCard is an authoring program developed by Apple Computer. This can handle text, sound and graphics so that the courseware can integrate those three different types of information on the same plane. QuickTime is an Apple Computer's technology which can handle motion pictures. It provides us with digitized movie pictures and data compression capability. Here visual images are tied and synchronized with sounds.

In this courseware learners watch a 5 or 6 minute video spoken at natural speed on the computer screen. This video<sup>1)</sup> depicts a scene of a teenage girl buying a jacket at

a department store in the United States. After watching the video, students answer the comprehension questions about the content of the video automatically provided by the computer. At this point they can choose other options such as to watch the movie again before actually answering questions or to get some hints about the vocabulary or sentence structures and then go on to the questions. The questions are all multiple-choice types. Every time the learner chooses the answer, the computer automatically evaluates his or her response and scores the points. If an error occurs, some clues are given. KR information about the exercises is fed back to the learner in the form of a chart at the end.



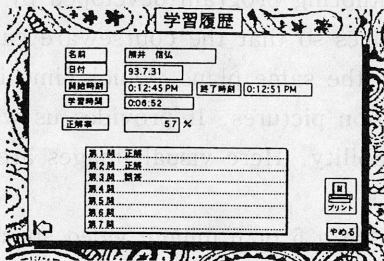
(figure 1)



(figure 2)



(figure 3)



(figure 4)

### 3. How *Hyper Video* works

The procedure of using *Hyper Video* "Shopping" is as follows;

(1) The first card is the title of this courseware. (figure 1) On the second card the learner registers his or her name. (figure 2) Then the learner clicks the card and goes on to the third card.

(2) The learner will be presented with pre-listening questions about the content of the movie. This helps the learner anticipate the story and get ready for what information to focus on while the movie is being shown.

(3) By clicking the movie button, a small color picture window pops up on the left side of the computer screen and a motion picture with sound is shown.<sup>2)</sup> The learner can watch the movie from the beginning all over again if necessary. The movie can also be replayed easily back and forth by using the slider on the window. In the movie, a junior high school girl goes to a department store in the United States. She is looking for a jacket. She walks around in the clothing department when the sales-clerk comes up to her. The girl asks the clerk to show her a blue jacket. The girl tries on the first jacket, but it is a little too big. She tries the second one on. She likes it and decides to buy it. She pays in cash and gets some change and leaves the department.

(4) Then the learner answers the multiple-choice questions one by one. (figure 3) There are 7 questions altogether about the content of the skit. The learner inputs the answers just by clicking the answer choices on the screen. The responses are immediately evaluated and the feedback is given. If the answer is wrong, the learner has to choose another choice. However only the first trials are counted. If more information is needed, the learner clicks the help button. When it is clicked, the program gives some clues to help the learner understand the content to answer the questions. If the learner wants the script, part of the script of the conversation is shown on the screen by clicking the script button.

(5) The program has a record-keeping function. After all the answers are given and evaluated, the computer shows the evaluation card which shows the name of the learner, date, time and the score. It also shows which questions are answered right or wrong. (figure 4) This card can be printed and passed on to the teacher as a record keeping chart for the teacher's later evaluation.

### 4. Advantages of using this courseware to improve listening skills

*Hyper Video* facilitates learning listening as follows;

(1) Interactions between the program and the learner

In this program the learner is expected to answer the questions provided by the computer and then gets immediate feedback. The learner uses the courseware inter-actively.

(2) Presentation of visual images and sound in addition to text.

Since a Macintosh computer can handle text, sound and graphics, it can present a situation in which real communication occurs. Therefore it presents an integrated environment for language learning.

(3) Fast access to text, sound and graphics

Because these three kinds of information are digitized and stored in the hard disk, it is fairly easy to access to them quickly. Digitized information can be played as many times as the learner wishes.

(4) KR and evaluation system

Just telling to the learner that each response given is "right" or "wrong" is not good enough. When an error occurs, the comments and further questions relevant to the error are introduced.

(5) Record keeping for the teacher's later evaluation

It has a function of recording items missed. It helps the teacher find learners' problematic areas and seek solutions.

(6) Easy input by the use of the mouse instead of the keyboard

The learners don't have to know how to use the keyboard. They only use a mouse here.

(7) No prior knowledge of the hardware is necessary.

It is not necessary to learn how to use the computer before using this courseware.

## 5. Conclusion

After using this courseware for some time, some points to improve the system are suggested by the users. This courseware should include more varieties of exercises such as dictation exercises and other different tasks. Further studies should be conducted as to the effectiveness of this courseware in teaching listening. However it can be said that this courseware, as it stands, is good for the first step.

## Notes

1) The video movie comes from a video cassette called "At a Department Store". This is an extended version of the original script in *New Horizon English Course, Book 2* by Tokyo Shoseki, one of the Mombusho-approved textbooks.

2) The movie was captured through the video capture board (MCL-VCB) built in the Macintosh LCIII from a VCR and kept as digitized information in the hard disk.

## Equipment

(Hardware)

Macintosh LCIII	Apple Computer with KanjiTalk7.1
Video capture board	Elm Data MCL-VCB

(Software)

HyperCard 2.1J	Apple Computer
QuickTime 1.6	Apple Computer
Video Hunter 1.0	Elm Data
Navi Palette 2.0	Yano Electronics

## References

- Ozeki, S., & M. Sugiura (1991) "Interactive Reading through CALL:HyperLibrary." *Language Laboratory* 28. pp. 63-76.
- Rost Michael and Nobuhiro Kumai (1990) *First Steps in Listening*, Longman/Lingual House.
- (1992) *Progress in Listening*, Longman/Lingual House.
- Underwood, Mary (1990) *Teaching Listening*, Longman.
- 熊井信弘(1992a)「これからのリスニング指導のあり方」『文教大学女子短期大学部英語英文科紀要 英米学研究』第27号, pp.21-30。
- (1992b)「聞くことの指導」英語科教育実践講座ビデオ, ニチブン。
- (1993)「英語の聴解力養成をめざしたコンピュータ支援システムの開発」『文教大学女子短期大学部紀要』第27号, pp.105-111。
- 杉浦正利(1992)「語学学習のためのハイパーメディア辞典:HyperPictureDictionary」*Language Laboratory* 第29号, pp.83-102。
- (1992)「リスニングを中心にした統合的英語学習環境の構築—CDとコンピュータを利用したハイパーメディア教材—」『中部大学女子短期大学紀要 言語文化研究』第3号, pp.77-107。
- 高橋秀夫(1992)「音声,映像情報の提示を可能にしたマルチメディア型CAI用ソフトウェアの開発」シリーズ研究会レポートNo.1,『LLA関東支部だより』第19号,語学ラボラトリー学会。
- 高橋秀夫他(1992)「ヒアリング指導の効果を高めるCAIシステムの開発」*Language Laboratory* 第29号, pp.133-145, 語学ラボラトリー学会。
- 山内 豊 (1991)「パソコンを使ったListening能力診断システムの開発と実践」*Step Bulletin*, vol.3, pp.88-101。