

The Evolution of a Certain Set of Teaching Materials from Paper Prints to Customizable Digital Dataⁱ

NISHIGORI Jiro

SUMMARY

The CD-ROM version of the Photo Panel Collection was developed by the Japan Foundation and released in 2000. The collection contains 643 pictures with descriptions in Japanese. Although this marks a great improvement over the original photo panels, the current CD-ROM version still has some limitations due to its simple design of the software (i.e. it can only be used in the presentation mode.) I have started developing several new programs using the collection to make it more useful.

In this report, key concepts of multimedia instruction, such as media-integration, interactivity, and customizability, are discussed. Then, using the programs I have been developing as examples, I will illustrate how these concepts are realized in the actual courseware.

1. Photo Panel Collectionⁱⁱ

1-1. The background of its development

This collection was developed by the Japan Foundation which is an affiliate of the Japanese Government. The mission of the Japan Foundation is to promote Japanese culture overseas by cultural exchange programs between Japan and other countries, and Japanese language education. I took part in the development of the collection as a member of the production committee for 7 years, from 1992 to 1998.

Although the budget was healthy due to the fact that the project was funded by the government, we encountered many limitations and

restrictions because of the government basis production. These points will be discussed later.

The production committee consisted of 8 members, 4 from the foundation and 4 outside Japanese language specialists.

The production committee, first of all, sent out the questionnaires to overseas Japanese teachers in schools and organizations which had Japanese language programs.

In the questionnaires we asked what kind of things should be contained in a new collection, what kind of media were required and useful, and so on.

In short, the results of the analysis of the questionnaires were :

- a. a new collection should cover all elementary vocabulary as much as possible.
- b. It should introduce various traditional, ritual, and cultural aspects of Japan.
- c. It should contain the main beautiful sights of Japan.

As media, panels or color prints of paper are the best since they would be useful in classroom activities. Descriptions of each photograph in Japanese were also requested by a large number of teachers. Digital pictures usable on personal computers were not requested so much. At the time, personal computers were not yet so common in the field of Japanese language teaching.

Consequently, we abandoned digital pictures for the time being, but this caused difficult problems about the copyrights afterwards.

We tried to meet these requests of Japanese teachers. Our goals were:

- A. All elementary Japanese vocabulary
- B. All about Japanese affairs

First, we made a data-base about elementary Japanese vocabulary by compiling words from eighteen well-used elementary textbooks and two authoritative basic word listsⁱⁱⁱ. Then a list was generated by choosing words which appeared in at least two of the selected textbooks or word lists. The words amounted to

approximately 2,000.

At the same time, we invited a folklorist to the committee, and chose items which were required to adequately introduce traditional, ritual, and cultural aspects of Japan.

- Categories and introduction -

The Photo Panel Collection consists of five categories. The number of photo panels are shown in the parentheses.

1. Clothing, Food, Shelter, and Associated Items (107)
2. Community Life (156)
3. Nature and Leisure Time (108)
4. Social and Ceremonial Occasions (125)
5. Daily Life (147) Total number 643

About two thirds of the photographs were newly taken, and the rest were adopted from other photo libraries. Needless to say, the photographs from other libraries required paying a certain amount of copyright royalty.

Each panel contains not only a photograph but also two descriptions about each photograph. One description is written in elementary level Japanese and another in advanced level Japanese. Each panel is light, but 643 sheets of panels weigh over 30 pounds. It is impossible to carry the entire collection. In Practice, teachers choose necessary panels and take them to classroom.

The entire collection costs approximately \$1,100. It should be sold much cheaper because it is a product of Japanese government. It is very strange but there is a law in Japan prohibiting governmental organizations from selling anything. Governmental organizations have the right to obtain and hold the copyrights but they have to commission private companies to make products and sell them. Consequently it became so expensive that ordinary teachers cannot afford to purchase them personally.

The Japan Foundation has donated more than 1,000 copies to overseas Japanese language organizations. In other words, The Japan

Foundation is buying what it made from a private publisher, and donating them to others.

1-2. Overview of each series^{iv}

A brief Introduction and some examples from each series are shown below.

1. Clothing, Food, Shelter, and Associated Items

In this category, clothing, food, shelter and tools which can be seen in ordinary life in Japan are introduced visually by 107 sheets of photo panels.

Breakfast

Japanese people enjoy a variety of foods. In former times, rice was the staple food, but now bread and noodles are also eaten frequently. At one time, breakfast in every Japanese home consisted of rice and miso (fermented soybean paste) soup, but nowadays, many people are busy in the morning, so they eat bread, which doesn't require so much preparation. Even so, more than 65% of Japanese men and women say that they feel unsatisfied unless they eat rice at least once a day (1992).

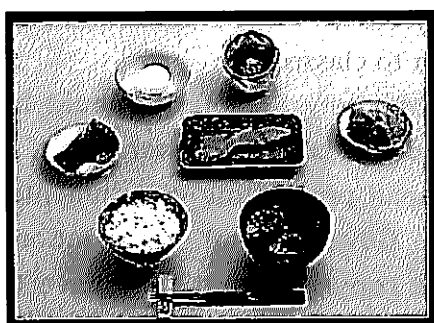


Fig. 1 Breakfast 1

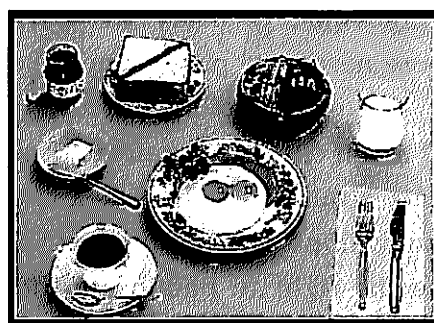


Fig. 2 Breakfast 2

Take a look at the bottom left of Fig. 2. To tell the truth, this cup of coffee was a mixture of soy source and watercolor. Real coffee

shows an oil slick on the surface. Since it doesn't look good, other mixtures resembling the color of coffee are used in commercial photographs or films.

Camera

Whenever we used products of private companies, we got in touch with the company asking permission. Most companies were willing to permit and some companies sent us their products.



Fig. 3 Cameras

Fig. 3 is a photograph of cameras and film. A film company kindly sent us their products. What do you call this kind of camera on the right? Usually it is called "Tsukaisute-camera" in Japan, which means a disposable camera. But the person of the company who was in charge of public relation claimed that they didn't product called a disposable camera. They called this kind of camera "film with a lens". No Japanese except for camera companies use "film with a lens". In Japan, environmental problems are getting more and more serious. Every company is eager to show the public creditability in protecting ecological system and environment. "Disposable camera" is disliked by the film companies though everybody uses this word. Consequently we introduced both words.

2. *Community Life*

In this category the places where Japanese often go are shown on

156 photo panels.

Public Bath

People who live in apartments and other establishment without baths often use the public bath. Since the number of apartments with baths has increased, the number of customers has decreased, and public baths have become increasingly rare.

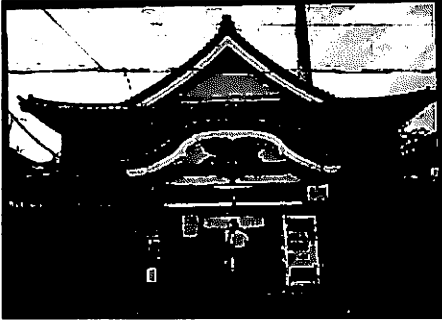


Fig. 4 Public Bath 1



Fig. 5 Public Bath 2

3. Nature and Leisure Time

In this category nature of Japan, animals and plants in Japan, the sights of Japan and leisure time of the Japanese people are shown on 108 photo panels.

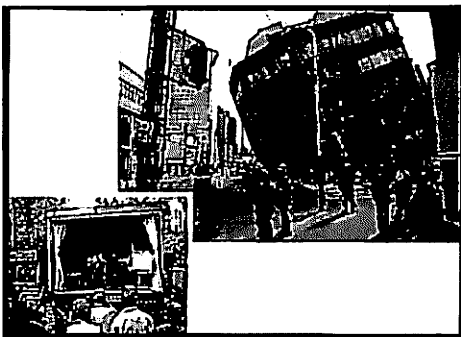


Fig. 6 Earthquake

Earthquake

The photograph on the upper right (Fig. 6) shows the aftermath of an earthquake. The one on the lower left shows a vehicle called a kishin-sha, which generates a shaking motion. It is being used for a

drill to show people what to do when an earthquake happens.

4. *Social & Ceremonial Occasions*

This category has two sub-categories: Annual Events and Major Ceremonial Occasions of Life. The former introduces various cultural or traditional events from January to December on 102 photo panels. The latter introduces main ceremonial occasions the Japanese hold from birth to death on 23 photo panels. As mentioned before, we worked together with a folklorist in this category.

Sanja-matsuri (Fig. 7)

This festival is held at Senso Temple in Asakusa on the Saturday and Sunday closest to May 18. Senso Temple is also called Sanja-sama (the Three Shrines), and the festival is for the three gods who protect Asakusa. It involves several large portable shrines that are carried around, and the festival typifies early summer in the working-class neighborhoods of Tokyo. It is a very high-spirited, boisterous festival that displays the character of old-time Edokko (people born and raised in Edo, the old name for what is now Tokyo)."



Fig. 7 Sanja-Matsuri



Fig. 8 Yakudoshi

Yakudoshi (Fig. 8)

Yaku-doshi are the years in a person's life which are considered easier prone to bad fortune. The unlucky age for women is 33, and for men is 42. When people reach those years, they go to a shrine for a purification.

5. Daily Life

In this category, based on a sociological survey, we listed up what each member of the average family is doing from morning to night, and showed them on 147 photo panels. We formed four fictional families portrayed by actors. Those were :

White-collar worker: The Kaneko family

Merchant (Fish shop): The Mori Family

Teacher: The Kimura Family

Farmer: The Yamashita Family

Each member has some relation with other members. For example, Mr. Kimura is the junior high school teacher of Mr. Mori's son, and Mr. & Mrs. Kaneko were go-betweens for the Kimura's. Many connections were set up behind them. We felt as if we were making several movies at the same time in this production.



Fig. 9 Setting the Table



Fig.10 Club Activity (University)

Setting the Table

The father is arranging dishes on the table, setting out chopsticks, and so on, to prepare for a meal (Fig. 9).

Club Activity (University)

This cheering group is practicing on a university campus. The cheering party is a school club, and its members support their own university's teams at interuniversity baseball games and so on wearing distinctive costumes and performing distinctive cheers (Fig. 10).

The final category of this photo panel collection was published in March, 1998. It took six years from the planning to its completion.

2. CD-ROM version

Panels are useful tools when teachers conduct various classroom activities. They require no skills to operate electrical equipment. But if these ample materials are put into computer, they can be used more effectively. But when the production of the CD-ROM version started we faced a serious problem: the copyrights. The copyrights the Japan Foundation obtained were those of analogue pictures only. Copyrights for digital pictures were different from these, and copyrights for cutting and modifying the pictures were also a different thing.

It took a full year to get all copyrights of all the pictures. The CD-ROM version of this collection was completed and published in March, 2000.

CD-ROM version contains:

1. 643 original pictures in digital forms
2. Two Japanese descriptions of each panel (one is for elementary level learners, another for advanced level learners)
- *3. 643 English translations
- *4. 643 digital audio files of Japanese descriptions for elementary level learners
5. Vocabulary list

The contents with an asterisk were new files we added when we made CD-ROM version. As mentioned before, 643 panels weigh over 30 pounds. But CD-ROM version weighs only half a pound. And we could reduce the price to about one tenth of the original photo panel collection.

The software was programmed in C language so as to avoid a platform problem. It can be used both on Windows and Macintosh. Since the software has a searching tool, it is very useful as presentation software. But it still has two shortcomings.

First, the software was developed as a package which does not allow flexible use of the pictures as resources. We cannot utilize the picture files separately and freely.

Secondly, all of the text was entered as images, thus, it has limited search capability. We could not expect that all machines of this CD-ROM users had Japanese operating system or Japanese fonts, for that reason all the text were transformed into bit-map pictures. Then we had to set countless links from pictures to pictures for user's benefit. But those links are not sufficient when one wants to search in detail.

I am currently proposing to the Japan Foundation that they publish these data as digital materials, by which the users can assemble their own software.

Fortunately I had a chance to utilize all raw data in this software, including pictures, texts, both in Japanese and English, and sounds by the permission of the Japan Foundation as a research activity.

I have developed five pieces of software at the moment. But prior to the reports of the new software, I will discuss some advantages of multimedia instructions.

3. Advantages of multimedia-supported instructions

Various advantages of multimedia-supported instructions have been pointed out by various teachers researchers and programmers. I have focused on the following three points in the development^y.

1. Media-integration
2. Interactivity
3. Customizability

3- 1. Media-integration

The word "multimedia" often refers only to media-integration. But I think it is just one characteristic of multimedia. Media-integration means various kinds of data like text, sounds, still pictures, and motion pictures are integrated on multimedia devices.

This advantage is very important for language learning since the communication itself includes the constant exchanges of various codes or media of information.

3-2. Interactivity

Interactivity basically means the interactivity between man and machine. Multimedia computers can process and respond to our complicated inputs in complicated ways. This enables language learners to participate in and enjoy the programs such as role-playing games, problem solving, and simulations in communicative settings.

Today interactivity is becoming possible on the internet as well. That is to say, we can interact with remote servers. But the instantaneous amount of information exchangeable between our platform computers and servers is not enough even now. So possible interaction and tasks that learners can get are limited. They are simple questions and answers such as yes-no questions and multiple-choices. At present, stand-alone computers have many advantages as far as the interactivity.

3-3. Customizability

Printed matters such as textbooks have a fixed and linear structure. This is important when learners in a Japanese class have similar backgrounds and study Japanese step by step. But I believe individualized courseware for individual learners are becoming more and more important.

In Japanese language education, in the last two decades the number and the diversity of learners have grown rapidly. According

to a survey by the Japanese government, in 1979, the number of students studying the Japanese language around the world was about 130,000. But in 1998, the number has grown to over 2.1 million. The types of learners have been diversified as well. Though many textbooks have been published recently, they are far from meeting the needs of the learners. Individualized courseware is ideal.

The customizability of multimedia instructions will support this. If we have abundant digital materials, we can customize them and make courseware suitable for individual learners.

We can get a variety of Authoring Programs now, which make it easy, even for non-programmers, to assemble digital data into courseware.

4. New software by customizing digital data^{vi}

4-1. "Hyper Index"

This software has similar functions to the CD-ROM version of the Photo Panel Collection. It shows the pictures, the sounds, two kinds of Japanese descriptions, and two respective English translations easily.

What I built up newly is the advanced word searches. As mentioned before, the searching tool of CD-ROM version was based on the picture-to-picture searching. For that reason, what we could search were limited to the preset-links by the programmer. They were not sufficient when we would search in detail (Fig. 11).

In most universities of the United States, Japanese language learners are using the computers which are equipped with Japanese fonts and FEP on standard English operating system. So one need not worry about the difference of system setups.

All text data were put into this new software so that we can search any English or Japanese (Kanji, Hiragana, Katakana or Roman-ji) words in any parts. For instance, if you put "wedding /

kekkon” into the searching tool, it finds the word one after another anywhere in the software and shows you the pictures like “Shinzen kekkon (a wedding performed before the Shinto gods)” or “Kekkon Hiroen (wedding reception).

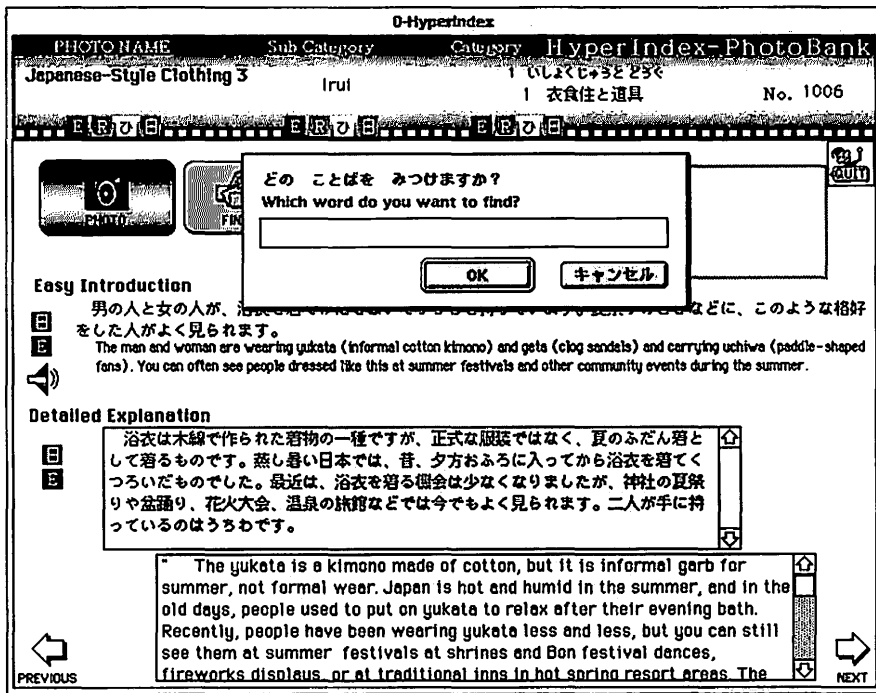


Fig. 11 Hyper Index

Needless to say, these text data can be copied and pasted to other application software. This software was programmed by "HyperCard" of Apple Computer.

4-2. "The sights of Japan"

This software will introduce you to some exquisite sights in Japan. In addition to taking advantage of the data from the Photo Panel Collection, some new data were added.

We can jump to many places from the map of Japan (Fig. 12). Each

place has the picture, the sound, Japanese description for elementary level learners, its translation in English, Japanese description for advanced level learners, and its translation in English.



Fig. 13 The Sights of Japan -B-

Moreover, it can contain a video clip. In the sample version I made, faculty staff or teaching assistants in Purdue University will introduce you to the places they are related to. This elaboration is very attractive and motivating for learners, since they may find someone they know on the screen. The learners may seize an opportunity to talk with teachers or teaching assistants in their target language. And the learners are going to feel more friendly with the computers (Fig. 13).

I think this is one of the greatest advantages of the customizing. Since this software was developed by Microsoft PowerPoint, it can be made available both on MacOS and Windows.

4-3. "Listening Quiz level 1" and "Listening Quiz level 2"

Two pieces of software for listening comprehension were made using the digital data of the Photo Panel Collection.



Fig. 14 Listening Quiz -A-

In both of the two software, one sound file is chosen randomly and become active (waiting to be played). Then the picture corresponding to the sound emerges with three dummy or false pictures. These four pictures are arranged randomly from No. 1 to No.4 (Fig. 14). The task for the learner is to choose one picture matching the sound.

The difference between Quiz 1 and 2 is the way of choosing the false pictures. In quiz 1 false pictures are chosen at random from 143

Daily Life series pictures. So it is easy to answer, because false pictures sometimes have no relations to the correct picture. Quiz 1 merely requires the learners to catch the key word of the sound in other words it is a simple scanning task.

In contrast to quiz 1, quiz 2 is more confusing. False pictures of quiz 2 are chosen from the members which are similar to the correct picture. So the learners are required to understand the meaning of the sound clearly. Since each session both in Quiz 1 and 2 consists of different and new pictures, the learner can practice over and over again.

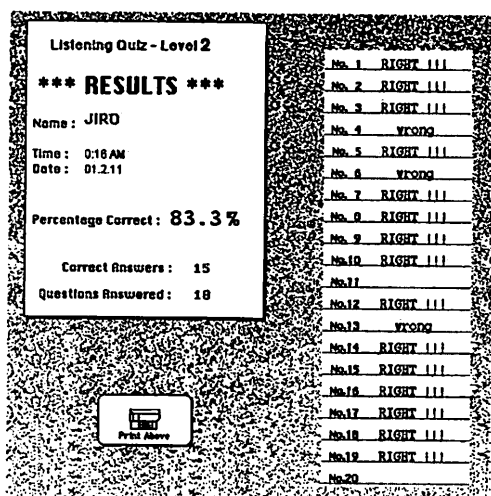


Fig. 15 Listening Quiz -B-

When the learners want to finish this quiz, they click this "result" button. It will show them the score, percentage correct, date and time and so on. What is more, they can print out the left part of this page by just clicking "Result button" .

4-5.Quick Typing

In this software, elementary will appear visually and randomly. The task for the learners is to type each word in Japanese Hiragana as quickly as possible. The more quickly they type the higher score they can get. No one can predict what word will come next. When the learner, or I might say the player get a total score within the first three

places ever, the name and score of the player will be recorded on the chart and honored for a long time. The learner has the impression a Video game. This can motivate the learners (Fig.16).

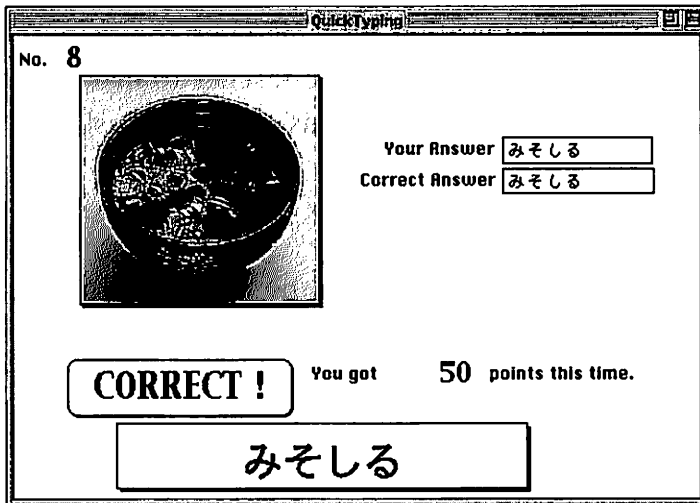


Fig. 16 Quick Typing

4-5. Evaluation and Improvement on the software

The new software introduced above were made as examples for customizing multimedia data of the Photo Panel Collection. Although the copyright problem has yet to be solved, the Japan Foundation permitted me to make software and to use them as tests. They are now tried and evaluated by learners and teachers for the further improvement.

5. Possibilities and Limitations of Multimedia-Supported Instructions

I do not believe that multimedia-supported instruction is the very core of the language learning or teaching. It is not enough to seat the learners in front of the computers, and supply them some software, since the main purpose of language learning is not a man-machine communication, but the acquisition of the human

communication. Ample practices with teachers and other students are indispensable. Multimedia is just a tool. It might be considered to be the extension of other materials such as textbooks, audio-tapes, and video-tapes. But it is superior to other materials in some aspects. It can amplify our communication. It sometimes compensates for the absence of a teacher. It enables a single teacher to make contact with various students of various backgrounds simultaneously.

NOTES

ⁱ This report is based on a presentation by the author held at Purdue University on Nov. 28, 2000.

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I wish to thank Kazumi Hatasa, John Niendorf and Daniel Long for their assistance to this report.

ⁱⁱ 日本語名は『日本語教育用パネルバンク (国際交流基金)』

ⁱⁱⁱ Partially utilizing the the database developed by the Research Group on supporting system for Japanese Language Education (日本語教育支援システム研究会)

^{iv} The copyrights of all the photographs in this report belong to the Japan Foundation.

^v Partially based on Nakano (1991) and Nishigori (1997)

^{vi} These are available at “Multimedia Workshop” in International House of Tokyo Metropolitan University.

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