

# An Implementation of Web-Based Chinese Letters Learning System Using Edutainment System

Eun-Ah Lee<sup>†</sup>, Tai-Suk Kim<sup>\*\*</sup>

## ABSTRACT

Internet users are increasingly depending on acquiring and spreading a variety of information from home pages and they are also making use of education systems based on the internet. This study suggests an efficient method to make learners study Chinese Letters with ease and fun through the internet. The detailed methods of attaining Chinese letters Using Edutainment system are divided into 5 elements as follows. Utilizing the transition process of the letters, using games, applying animation and through switching over from Chinese letters to Korean letters and vice versa including making use of the sound of letters and their meanings.

**Keywords:** Edutainment, Chinese letters learning system

## 1. INTRODUCTION

The rapid growth of modern technologies has brought about the amazing development of computer industry and the high quality on-line infrastructure. Vast information is being saved in databases and exchanged through the internet. Corresponding to these tendencies, many studies on education have also been conducted through the internet.

To cope with these changes, this study suggests the new method of learning Chinese characters taking advantage of on-line lecture system.

First, this research attempts to explain how to realize a systematic and practical on-line Chinese character lecture reflecting the characteristics of Chinese characters. It will allow learners to study with more ease and interest. This on-line

Edutainment study is focused on helping learners to understand Chinese character as fabricated letters not as completed letters.

But there are difficulties in realizing this kind of on-line lecture system. Because this system is due to utilize multimedia, which inherently has entertainment factor as its major function, it is likely to depend too much on entertainment. It could prevent students from writing letters in right sequence and understanding the real meaning of letters[1].

Second, this study analyzes the remote lecture system and the specific method of edutainment Chinese character teaching techniques. This will help students to study Chinese characters anywhere they are using a variety of media.

This study suggests four types of lectures.

They include learning through sounds of the letters, communication using games, animation techniques and exchanging letters between Chinese and Korean.

In the process of conducting this study, building an effective Chinese database is the main obstacle to realizing Edutainment Chinese character lectures[2].

Third, this study aims at realizing systematic

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structure in database separation, not just for fun. By doing so we can get more wider range of knowledges about Chinese characters. This is what we suggest as Edutainment Chinese character on-line lecture[3].

This study seeks to achieve organized learning through Edutainment Chinese character program harmonizing the systematic form, study on Edutainment system , effective usage of database, and step by step learning method.

## 2. DESIGNING FOR EDUTAINMENTAL SYSTEM THROUGH ON-LINE CHINESE CHARACTER LECTURE

### 2.1 System for Chinese character lecture

The system for Chinese character lecture has to be based on individual strokes of letters and hieroglyph similar to Chinese characters.

Especially, it has to emphasize on the interaction between instructors and learners rather than individual study. The education environment should be made by on-line study and cyber classroom using multimedia. And the education also should be more active than that conducted in normal classrooms. Besides making contents of learning process more interesting Multimedia can give more effectiveness and efficiency.

And in order to maximize the effectiveness, the multimedia system should be designed to motivate students. For this purpose a hieroglyph should be utilized.

### 2.2 Client/Sever environment and web-based system

This Chinese Character system includes systems for evaluating students,collecting contents for tests and real time test for individual studying. Instructors and users can use the client server owing to the automatic evaluating system. For this function, all users could get a CBT(computer based raining)

system. And a web-based system is available in anywhere and anytime making it possible for students to get immediate feedbacks.

Furthermore it also it easy to prepare questions for tests, revise them and present a variety of information through links. See web-based evaluation system in (Fig. 1).

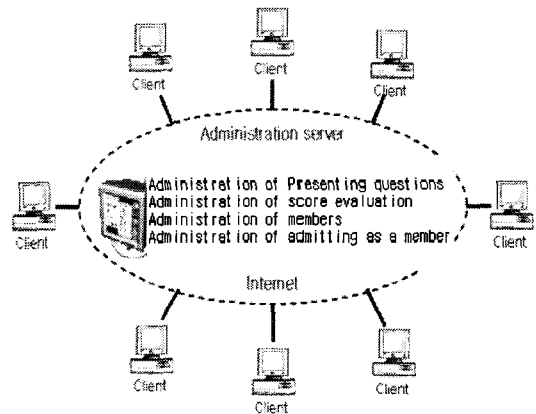


Fig. 1. Structure of Client/Server for edutainment system

### 2.3 User interface for Edutainment Chinese character system

When we contact a Chinese lecture server, a Chinese lecture homepage is connected. On the first page, learners are offered a lecture menu, a help button and close button.

Once learners click a word that they want to know, the Korean word changes into the Chinese

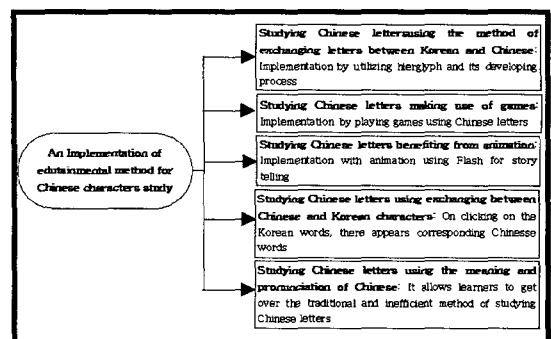


Fig. 2. An Implementation of edutainment method for Chinese characters study

word and click it again a media player operate. This media player consists of graphic animation, sound, meaning and pronunciation of each letter. In addition, for the efficiency of Chinese character database and step by step study, it is designed based on the background related to Chinese characters.

### 3. REALIZATION OF A LECTURE SYSTEM FOR EDUTAINMENTAL CHINESE CHARACTER STUDY

#### 3.1 Chinese character study -using formation of Chinese characters

One of the most basic method to learn Chinese letters is to study their origins. This method uses flash tools offering a very natural way to study letters like in the (Fig. 3)

#### 3.2 Chinese character study -using games

##### ① Chinese character study -using games.

This is the way to make students learn Chinese letters with more interests. This is explained in the (Fig. 4). Learners are supposed to write the meanings and pronunciation watching each Chinese letters dropping from the upper side of the screen. 20 points is the basic points and they lose 2 points when they make one mistake. The points mark zero, the game will end. And the time limit is 3 minutes.

##### ② Chinese character study -using puzzles.

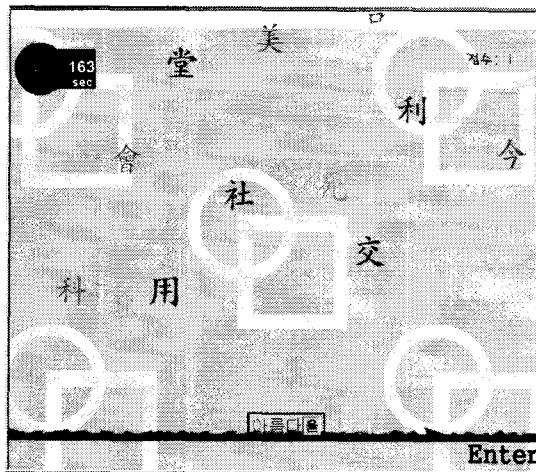


Fig. 4. Chinese character study -using games

This is a system using puzzles. When learners click the play button, Chinese characters which are supposed to go into blanks appear on the lower side of the screen. Learners are supposed to drag every word and fill the proper blank with it.

When mouse is on the numbers or Korean consonants, help appears and when learners move mouse to the Chinese character it offers the sound the corresponding word like in the (Fig. 5).

#### 3.3 Chinese character study-using animation

This is a method for making students learn and memorize Chinese characters easily and last them longer. (Fig. 6) shows an example of learning the expression, 左之右之. On the screen, the expression is being explained presenting a class captain who is directing students this (左) and that (右) way.

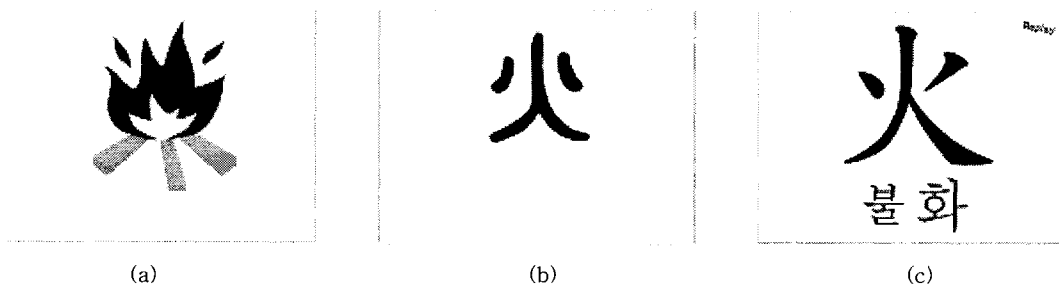


Fig. 3. Chinese character study- using the background related to formation of Chinese characters

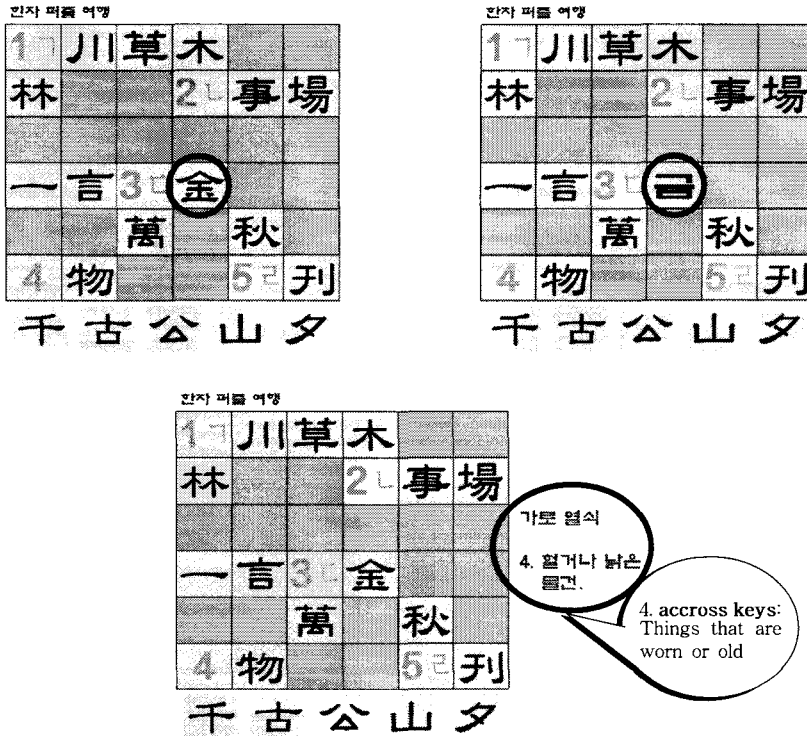


Fig. 5. Chinese character study -using games II

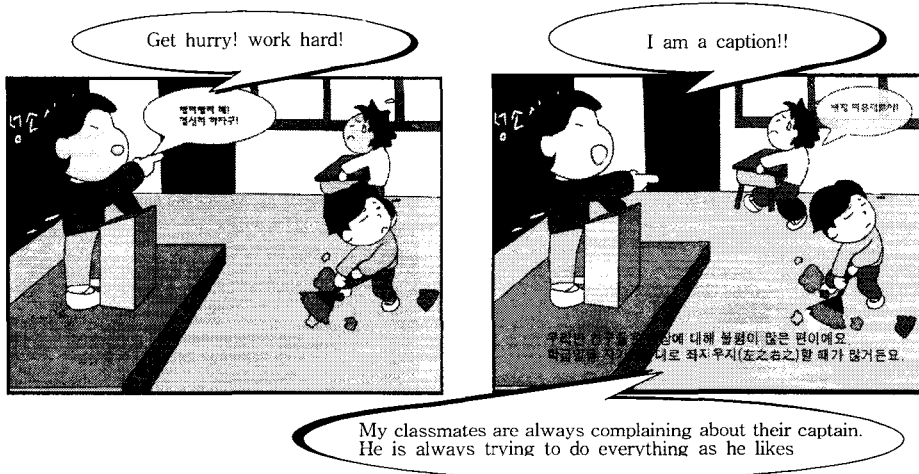


Fig. 6. Chinese character study-using animation

### 3.4 Chinese character study -using the method of exchanging letters between Chinese and Korean

(Fig. 7) shows how learners study through the method of exchanging letters. In sentences written

in Korean, learners can find some words which can be changed into Chinese words marked in other colors. On pointing to the word with cursor the very word is supposed to be changed into Chinese.

This makes students learn new words reading

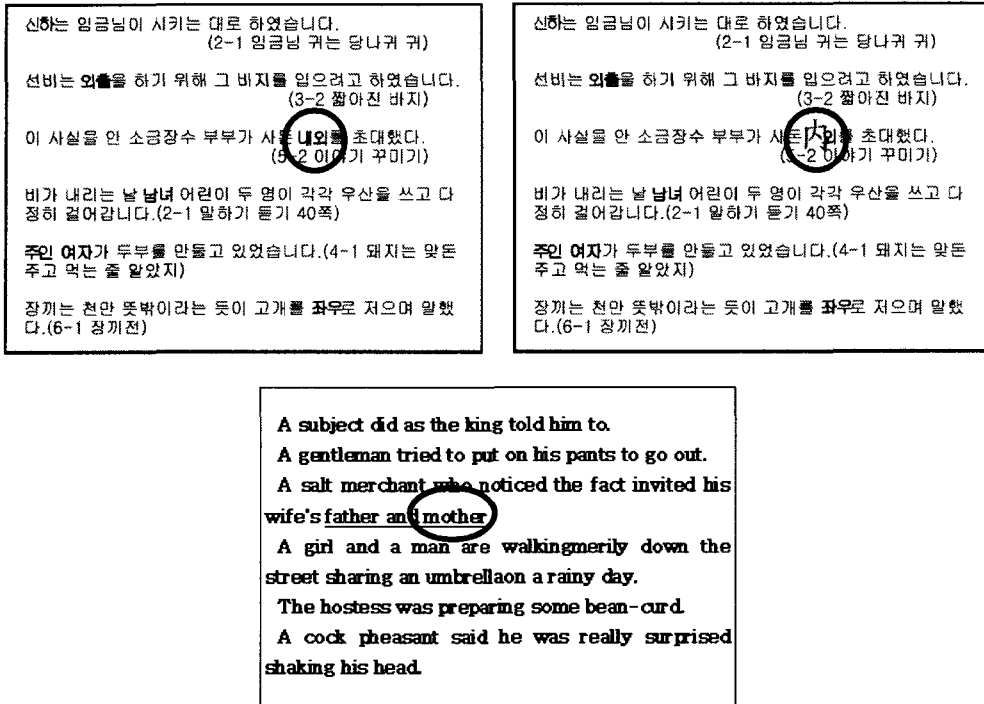


Fig. 7. Studying use interchange of Chinese character Korean letter

sentences.

### 3.5 Chinese character study- using its meaning and pronunciation

This method is laying its focus on learning Chinese letters through putting together each part of a word. One of the typical examples of this is the expression of 月(month)月(month)山(mountain)山(mountain).

There lived a poor scholar. One day one of his best friend visited him. And the scholar and his daughter-in-law was talking in their own way making the visitor confused. The daughter-in law said, "Father, 入良戶方?" Her father responded "No, 月月山山"

入良 is the broken up parts of the word 食(meal) meaning meal. And 戶方(room) means a room. So when fabricating the parts, it comes to mean "Do you want me to bring in meal?"

In the father's statement, 月月 means friend when they are put together. And 山山 means go

out. And the hidden meaning of the sentence is, "After my friends go out"

## 4. EVALUATIONS, QUESTIONS AND ANSWERS

### 4.1 Evaluations

Evaluation is divided into three levels, beginners intermediate, and advanced depending on students.

When a student selects a level, questions of the level will appear on the screen. It added functions enabling students to check his own test results and to compare his points with those of other students. This function will encourage students to repeat what they learned.

The merit of this web-based method is that students can get their immediate test results.

After students submit their assignments, they are saved into a database from which instructors can check and graduate. And students can check

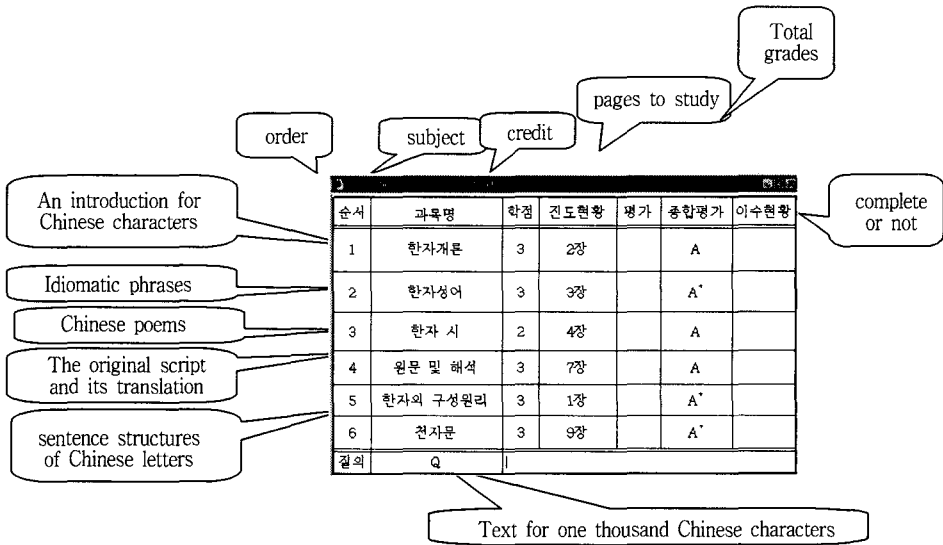


Fig. 8. Evaluations

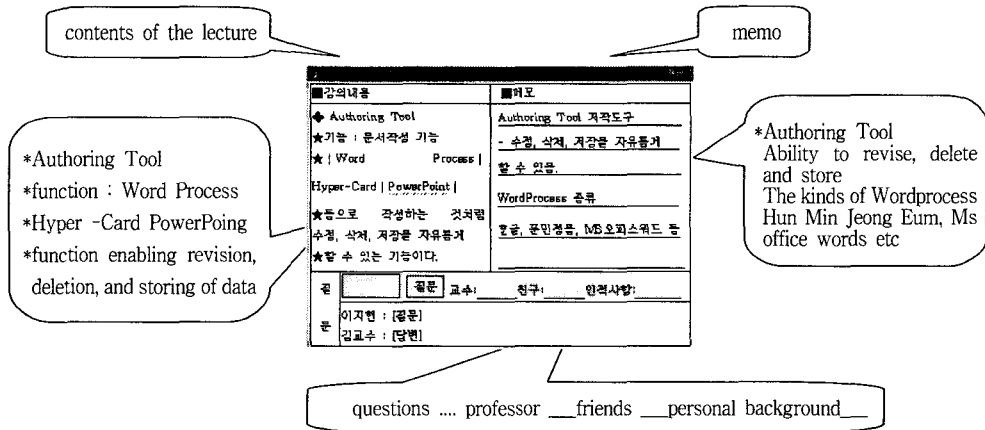


Fig 9. A monitor for learners of discussion on Chinese characters

their own grades and ranks after instructors post the results of the tests.

### 4.2 Questions and Answers

Students can ask any questions using the section for Q&A or the board. And answers will be given through e-mails or separate section of answering.

## 5. CONCLUSIONS

Until now, many people have been thinking that

Chinese letters are very difficult and boring to learn. But Thanks to the ever-developing technologies of multimedia and the accumulation of a variety of contents of them, the process of learning Chinese letters can be more interesting and easy.

This study provides a benefit for students and instructors alike because it enables them to conduct learning process interactively without really attending the class.

There could be a controversial issue that this kind of Edutainment Chinese letter learning system can be rather superficial because of its

entertainment factor at the cost of a real and deep understanding of the chinese characters.

This thesis is prepared to realize a practical system for Edutainment Chinese character study and it is focused to understanding Chinese letters as fabricated letters not as a completed one. It will allow students to learn Chinese letters with more interests and ease which is distinguished from old methods of learning Chinese letters.

## 6. REFERENCES

- [ 1 ] Eun-Ah Lee, Hyae-Sun Joung and Tae-Suk Kim, An Implementation of Education of the chinese Language for Edutainment on Internet, *Journal of Korea Multimedia Society*, Vol.4, No.2, pp.386-391, Nov. 2000.
- [ 2 ] Eun-Ah Lee, Choon Keun Lee, and Tai-Suk Kim, An Impementation of a Remote Instruction System for Edutainment Learn of Chinese Character, *Journal of Korea Multimedia Society*, Vol.4, No.1 , pp.361-366, Jun. 2001.
- [ 3 ] Eun-Ah Lee, Mu-Wha Lim and Tai-Suk Kim, An Implementation for Remote Instruction of Edutainment Chinese Characters Based on Formation of Chinese Character, *Journal of Korea Multimedia Society*, Vol.4, No.2 , pp.793-798, Nov. 2001.
- [ 4 ] Sun-Man Kwon, Education multi media system composition direction, *Hanbat Education*, Vol.14 daejeon Education researcher, Nov. 1996.
- [ 5 ] Myung-Sun Gwak, Sung-Moo Jung, Jea-sin Song, Young-Suk Seo, Kee-Jung Kho, Software authorizing tool Research and Development for 96 educations, *Korea Educational Development Institute*, Jan. 1996.
- [ 6 ] Dae-young Kim, Computer studying CAI's design and embodiment that use breakup Haipeomidieo, *Journal of Korea National University of Education*, Aug. 1996.
- [ 7 ] Dong-gun Back, Gu Lee and Man-gon Park, Multimedia courseware reusability possibility analysis matrix by computer-aided education environment change, *Journal of Korea Multimedia Society*, Vol.2, No.1 pp205, Jun. 1999.
- [ 8 ] Tae-young Kim and Young-sic Kim, To super-highway information network base remote education systems techniques, *Journal of the Korean Dataand Information Science Society*, Vol.13, No.6 pp72-89, Nov. 1995.
- [ 9 ] Gae-hwan Kim, You-hee Joo, Jong-Gue Kang and Sung-il Jin, Design of Haipeomidieo service system in superhigh speed communication network multimedia S/W platform MuX, *Emperor 3th superhigh speed Information network system utilization technology art and science contest, korea Information Processing Society*, pp. 86-89, Feb. 1995.
- [10] Ian S. Graham, *The HTML SOURCE BOOK*, John Wiley & Sons. Emily Berk, Joseph Devlin, Hypertext/Hypermedia handbook, McGraw-Hill, AUG. 1991.



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