

# Research on Systematic Functions and Designs of Digital Archives for Ancient Chinese Poetry Instructed in Senior High School

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*Under adding fuel to the flames in the Internet network technology is ripe day by day, the digital archives have become the important save way of culture assets gradually, and offer the abundant resource for teaching at the same time. Taking Chinese poem as an example, a lot of digital archives websites collect the poem and make to appear pluralism, including characters, reciting, database, etc. Do these digital archives systems meet the teaching demand of Chinese in high school? So this text will proceed from teaching and probe the systematic function of digital archives which accord with the Chinese teaching demand in high school.*

## 1. Introduction

The instruction of poetry, including the ancient-styled poetry during the pre-Chin Dynasty and Han Dynasty and modern-styled verses during Tang Dynasty, has long occupied an important portion in the courses of Chinese literature in senior high school. And its aim is to have pupils recite and memorize these poetic compositions, to help them understand those of tone patterns and the structure of the content and, what is more, to foster their esthetic sense for literary works.

It is indeed a shame to limit this 'poetic education' nowadays to textbook reading mainly. Owing to tight classroom schedule, the teacher often fails to make good use of ready-made CD, to say nothing of independent learning by students themselves.

With the great progress made in the information technology industry recently, digital archives have increasingly served as a main means for preserving cultural heritage on the one hand and provided teacher with abundant teaching material on the other. The website on <http://cls.hs.yzu.edu.tw> 【網路展書讀】 or National Digital Archives Program 【數位典藏國家型科計畫】 at <http://cls.admin.yzu.edu.tw/tang/index.html> 「唐詩吟唱虛擬實境教學網站」, for example, offers plenty of databases ready for poetry reciting teaching, and what is better, computer-assisted instruction for verse writing. This provides teacher with a variety of teaching resources and students with independent learning as well.

Do all these digital archives of systematic functions and interfaces meet the demand of Chinese instruction in senior high school? And do the students really learn something from the given materials? These two questions still remain unanswered. Hence, the aim of the research is to comprehend what appropriate equipments are for the instruction of ancient Chinese poetry in senior high school.

## **2. Research question and research approach**

In order to probe into teacher's demand for the digital archives for ancient Chinese poetry instructed in senior high school, this research takes digital archives website of ones that have already set up at present as an example, after high school teachers use these site, interview what is the systematic function of the digital archives for ancient Chinese poetry that teachers expect. Particularly, the following is the questions of this research:

- (1). What is the teachers' view and suggestion about applying domestic archive systems for Chinese poetry to instruct?
- (2). What is the model of digital learning for ancient Chinese poetry conformed with Chinese teaching of high school?

We here adopt the method of focusing interview and document analysis, while analyzing from documents first, generalizing the quality indexes of distance learning websites, and combine these indexes with the information system success model as the directions of interview. We interviewed six Chinese teachers in high school to understand the teachers' questions and view of these digital archive systems and attempted to seek demand indexes of digital archives for ancient Chinese poetry from teaching viewpoint.

## **3. Website quality of the distance learning**

Because the internet prevails, the obtaining of resources can be anytime and anywhere, offering more abundant resources for teaching also, so website quality and distance learning effect begin to become the topic that each side's scholar probes into.

The information system success model that DeLone and McLean publish (2003) thinks there are three orientations to assess whether the website is success: information quality, system quality and service quality.

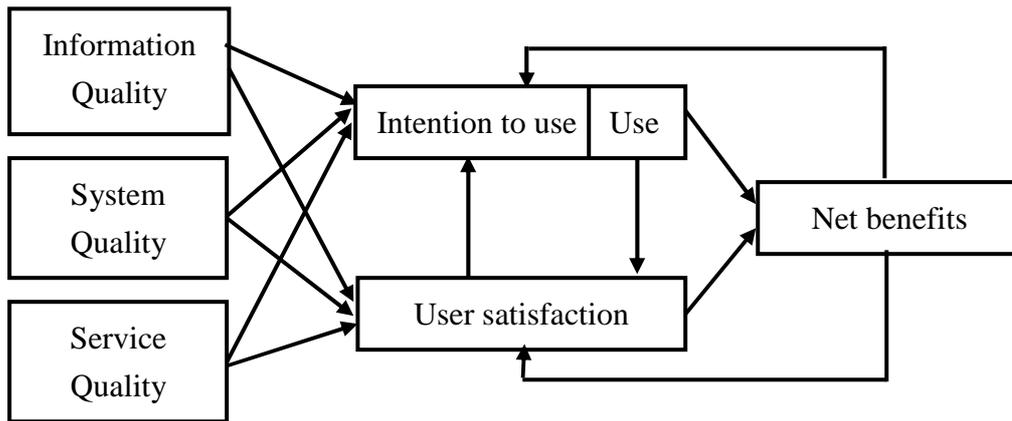


Figure 1: Updated DeLone & McLean IS Success Model (2003)

And Zhou HongZhi (2004) referred to the model published by DeLone and McLean, thought that systematic quality can be divided into the functionality and user interface, and proposed that website quality of the distance learning is as follows:

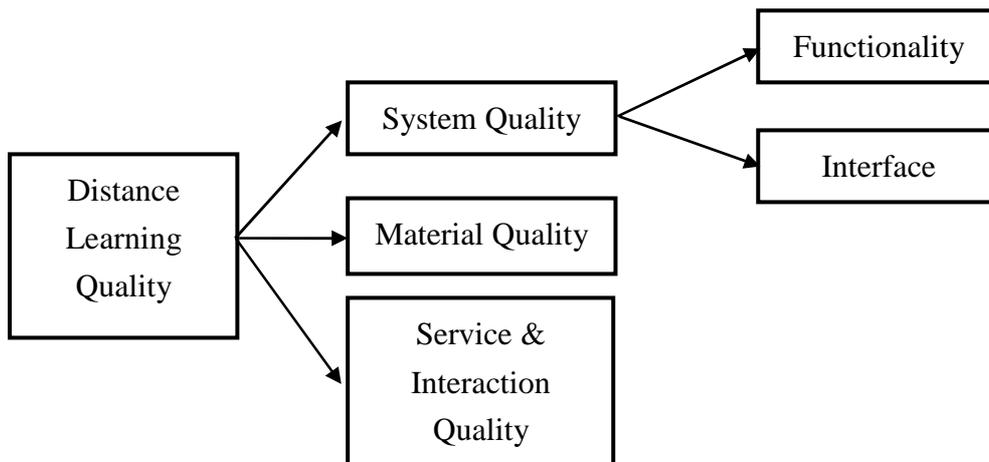


Figure 2: Website quality of the distance learning. Zhou HongZhi (2004)

And a lot of organizations develop a lot of different assessment indexes , the purpose is to used for weighing the quality of the distance learning, in order to be reference when constructs or improves systems, put it in order as follows:

Table 1: Quality indexes of different distance learning websites (generalize by author)

<p>Sloan Consortium (Sloan-C ) issuing Elements of Quality: The Sloan-C Framework( Moore ,2002)</p>	<ul style="list-style-type: none"> <li>● Learning effectiveness</li> <li>● Access</li> <li>● Student satisfaction</li> <li>● Faculty satisfaction</li> <li>● Cost effectiveness</li> </ul>
<p>C-RAC( the Council of Regional Accrediting Commissions)</p>	<ul style="list-style-type: none"> <li>● Institutional context and commitment</li> <li>● Curriculum and instruction</li> <li>● Faculty support</li> <li>● Student support</li> <li>● Evaluation and assessment</li> </ul>
<p>The Guideline for Good Practice of AFT (the America Federation of Teachers )</p>	<ul style="list-style-type: none"> <li>● Faculty must maintain teaching quality</li> <li>● The teacher must possess the special ability of the distance learning</li> <li>● It should be moderate to design the degree of difficulty in course</li> <li>● Students need to be totally clear that course stipulates and have motive to study.</li> <li>● To retain interpersonal interaction</li> <li>● To stipulate the number of people of course</li> <li>● To diversify the teaching material</li> <li>● To encourage the various subjects of research experiments.</li> <li>● Course offers the same research chance</li> <li>● Students' commenting amount comparing</li> <li>● Course offers the same thinking chance</li> <li>● The teacher can use the element of various types of teaching materials with the intention</li> <li>● Degree course needs to include the traditional on-the-spot homework or test</li> </ul>

	<ul style="list-style-type: none"> <li>● Should carry on the far commenting amount before working of course</li> </ul>
NEA (National Education Association ) and Blackboard Inc. Plan finished: Quality on the Line: Benchmarks for Success in Internet-Based Distance Education.	<ul style="list-style-type: none"> <li>● Institutional Support Benchmarks</li> <li>● Course Development Benchmarks</li> <li>● Teaching / Learning Benchmarks</li> <li>● Course Structure Benchmarks</li> <li>● Student Support Benchmarks</li> <li>● Faculty Support Benchmarks</li> <li>● Evaluation and Assessment Benchmarks</li> </ul>
USDLA( United States Distance Learning Association)	<ul style="list-style-type: none"> <li>● Interactivity</li> <li>● Online Design</li> <li>● Technology</li> <li>● Assessment</li> </ul>

### 3.1 develop six major quality indexes

According to the reference about the quality of distance learning and the information system success model, deleting irrelevant items which digital archive system about teaching is unconcerned, including: Institutional Support Benchmarks (NEA), Faculty Support Benchmarks (NEA, C-RAC), Institutional context and commitment (C-RAC), and attempt to revise the information system success model in order to analyze the present digital archive system, whether they can meet the teaching demand. So put forward suitable systematic quality for this research as follows :

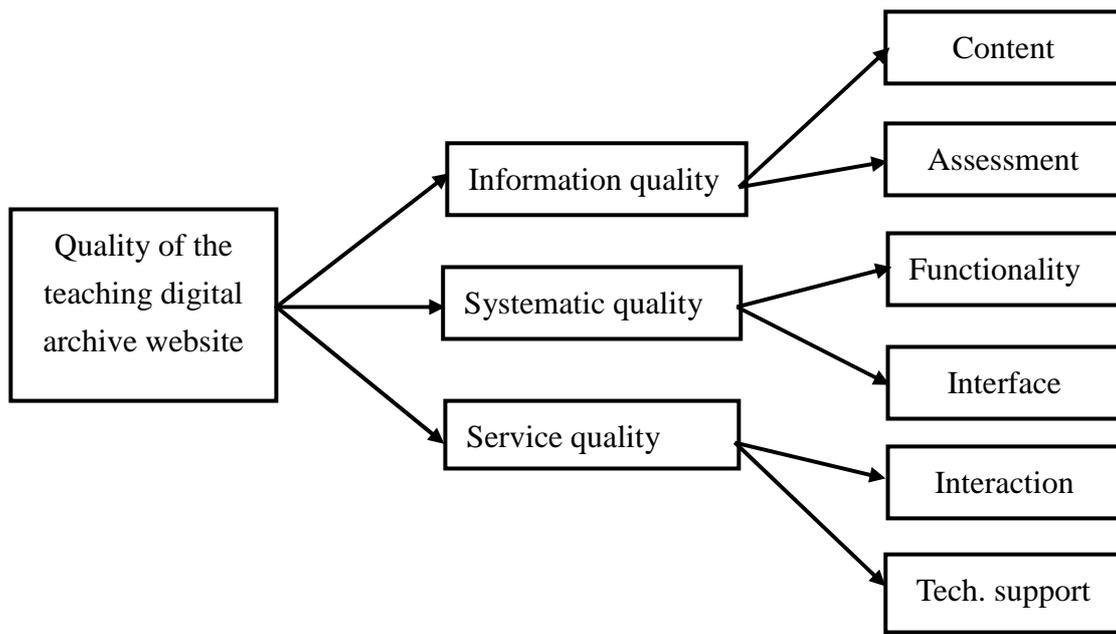


Figure3: Website quality of the teaching digital archive system

Take six major qualities as the assessment criterion of the information system success model, after revising DeLone and McLean model is the research structure as the following picture:

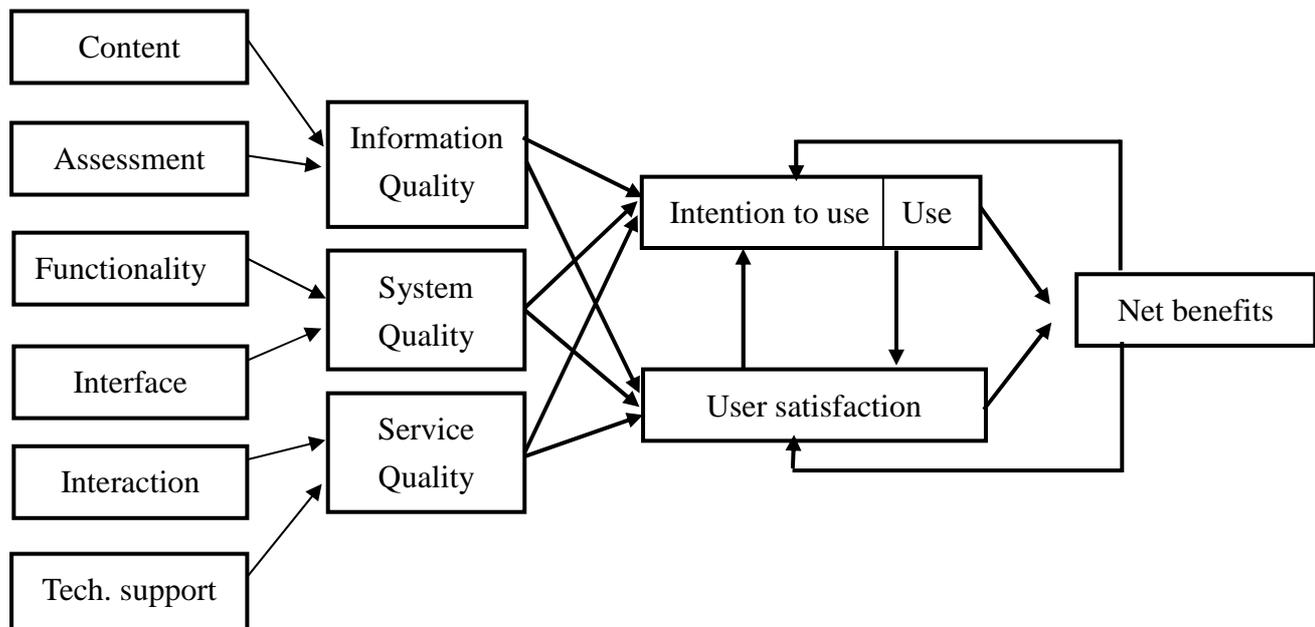


Figure 4: Research structure

### 3.2 Quality items

After generalizing the six major indexes and the quality of the distance learning which each organization proposes before, we sum up every quality items as follows:

Table 2: Quality Items (generalized by author)

Content of the teaching material	The content has clear logic orders	USDLA (Online Design) , C-RAC (Curriculum and instruction) , Liang JiaLing ( 2001)
	There are auxiliary resources	USDLA (Online Design), NEA (Course Structure Benchmarks)
	Accord with the course standard, and the degree of difficulty is moderate	USDLA (Online Design) , NEA (Course Development Benchmarks) , AFT , Zhou HongZhi ( 2004)
	Variety of the teaching material	USDLA (Online Design) , AFT , Liang JiaLing (2001 ) , Zhou HongZhi ( 2004)
	The way of presentation is easy to study	USDLA (Online Design) , Liang JiaLing (2001 ) , Zhou HongZhi ( 2004)
Assessments of teaching	Course includes practices and many kinds of assessment way	USDLA (Assessment) , NEA(Evaluation and Assessment Benchmarks) , C-RAC (Evaluation and assessment) , AFT
Functionality	Systematic stability	Liang JiaLing ( 2001), Zhou HongZhi ( 2004)
	Connected speed	Liang JiaLing ( 2001), Zhou HongZhi ( 2004)
	It is effective and easy to use to hyperlink	USDAL (Online Design) , Liang JiaLing (2001 ) , Zhou HongZhi ( 2004)
The design of user interface	There is unity of interface	USDAL (Online Design) , Liang JiaLing (2001 ) , Zhou HongZhi ( 2004)
	There is unity of usability	USDAL (Online Design) , Zhou HongZhi ( 2004)
Interaction	Offer mutually interaction with material	USDLA (Interactivity) , Liang JiaLing (2001 ) , Zhou HongZhi ( 2004)
	Offer mutually interaction with schoolmate	USDLA (Interactivity), NEA (Teaching / Learning Benchmarks), C-RAC (Curriculum and instruction), AFT, JiaLing Liang (2001 ) , HongZhi Zhou ( 2004)
	Offer mutually interaction with teacher	USDLA (Interactivity), NEA (Teaching / Learning Benchmarks), C-RAC

		(Curriculum and instruction), AFT, JiaLing Liang (2001), HongZhi Zhou (2004)
Technological service	Offer technical support and training	USDLA (technology), NEA (Student Support Benchmarks), C-RAC (Institutional context and commitment), Liang JiaLing (2001)
	Offer the information tool that course needs	USDAL (Technology)

#### 4. Investigation and interview

To understand the senior high school teachers' opinions about the situations of applying digital archives systems to Chinese poetry teaching, the researcher designed for the questionnaire and interview outlines, inquiring assessments about the systems to the Chinese teachers in Shuangxi Senior High School of Taipei County, and interviewed them with focused interviews to realize their assessments in depth. The two chosen digital archives system websites are:

“[http://140.138.172.55/CL\\_POEM](http://140.138.172.55/CL_POEM)” and “<http://140.138.172.55/CSP>”

##### 4.1 Interview result

The suggestions as follows are based on the six major quality indicators, which are put forward to the Chinese poetry digital systems according with senior high school teaching by the teachers:

Content of the teaching material	<ul style="list-style-type: none"> <li>● For the convenience of utilizing, they suggest that each senior high school Chinese poetry text of different editions can be shown with a unique unit and separate the demand of a teacher from a general user.</li> <li>● The contents shouldn't only limit at poetry itself, but include the introduction of the author and their relevant works.</li> <li>● The contents should include the appreciation of works appropriately.</li> <li>● The chant of poetry mustn't sing traditionally but include some modern music that its lyrics were set by poetry</li> </ul>
Assessments of teaching	<ul style="list-style-type: none"> <li>● Students can practice to create. When the tones are not fashionable, the system will inform about it automatically.</li> <li>● Students can practice singing and even recording by the system, more over, it can only show background music, rhythm, etc., and let student exercise like Karaoke disc.</li> <li>● In the system, we can add some small tests about the introduction to the poetry and the appreciation of it.</li> </ul>

Functionality	<ul style="list-style-type: none"> <li>● It is necessary that the connected speed should be quick and steady.</li> <li>● The logic of structure-linking and the classification of information-searching should proceed from the characteristics of the poetry.</li> <li>● There can be a list of all archives of poems, arranged in order of the classification, showing all works which can be selected directly in the network.</li> </ul>
The design of user interface	<ul style="list-style-type: none"> <li>● The most important of all is the user interface should be simple, clear and easy to use.</li> <li>● The frame of the user interface should be simplified.</li> <li>● It had better can see poems at the same time, when broadcast singing, even show words and tune in step just like a Karaoke disc.</li> </ul>
Interaction	<ul style="list-style-type: none"> <li>● Students can post up their poems on the system, like the message board, let them inspect and learn from each other's works and the teachers can give feedback.</li> <li>● Students can compose a popular song with a poem by themselves on the system, then inspect and learn from each other's works.</li> </ul>
Technological service	<ul style="list-style-type: none"> <li>● Perform the basic operation instructions by the audio-visual system.</li> <li>● Provide a interface to get feedbacks.</li> </ul>

#### 4.2 quality divides an index to propose

Contrast the quality items with interview result; find out concrete practice and suggestion to set up the digital archive system of Chinese poetry for high school teaching.

Content of the teaching material	The content has clear logic orders	● Include poesies of different editions.
	There are auxiliary resources	● Do consistency arrangement of the author, relevant works.
	Accord with the course standard, and the degree of difficulty is moderate	● Take degree of high school as the core first.
	Variety of the teaching material	● Except the tradition tune, sing ancient poetry which increases the popular tune.
	The way of presentation is easy to study	<ul style="list-style-type: none"> <li>● To separate the general user from teacher and student.</li> <li>● When intone poem had better can see poem text at the same time, even like</li> </ul>

		Karaoke words and tune show in step.
Commenting amount of teaching	Course includes practices and many kinds of assessment way	<ul style="list-style-type: none"> <li>● Students can practice to create. When the tones are not fashionable, the system will inform about it automatically.</li> <li>● Students can practice singing and even recording, or the web can leave background music, rhythm, etc. let student exercise like Karaoke.</li> <li>● The introduction to the poesy can have the quiz.</li> </ul>
Functionality	Systematic stability	● The system should be steady
	Connected speed	● Connected speed should be fast
	It is effective and easy to use to hyperlink	<ul style="list-style-type: none"> <li>● The logic of structure-linking and the classification of information-searching should proceed from the characteristics of the poetry.</li> <li>● There can be a list of all archives of poems, arranged in order of the classification, showing all works which can be selected directly in the network.</li> </ul>
The design of user interface	The interface is beautiful	<ul style="list-style-type: none"> <li>● The most important of all is the user interface should be simple, clear and easy to use.</li> <li>● The frame of the user interface should be simplified.</li> </ul>
	There is unity of interface	
	There is unity of usability	
Interaction	Offer mutually interaction with material	● The system has quizzes.
	Offer mutually interaction with schoolmate	<ul style="list-style-type: none"> <li>● Students can compose a popular song with a poem by themselves on the system, then inspect and learn from each other's works.</li> <li>● Students can post up their poems on the system, let them inspect and learn from each other's works.</li> </ul>

	Offer mutually interaction with teacher	● The teachers can give feedback.
Technological service	Offer technical support and training	● Perform the basic operation instructions by the audio-visual system. ● Provide an interface to get feedbacks.
	Offer the information tool that course needs	● Software used in the site should choose familiar ones.

## 5. Conclusion

According to the research above-mentioned, we get the following conclusions:

- (1) The Chinese poetry digital archive system which accords with the teaching demand should rely mainly on giving lessons in the range in high school first and the structure of website should let the user (the teacher and student) search easily, avoiding wasting time to look for resources in a large number of archive. In order to increase the results of learning, in addition, background and related poem of the writer can appear in the lump. It is a very good auxiliary material to teacher. And the appropriate pops which join Chinese poetry can cause students' interest even more.
- (2) The assessment can match each other with interactive demands. After student create poem, schoolmate can view and emulate each other in this system, and teachers can give feedback too.
- (3) When website's system is designed, its structure should set out from the category of Chinese poetry. That'll have more intuition and fewer obstructers for user. And systematic stability, even connecting speed will influence the will of using.
- (4) When we design the user interface, simple and easy to use should be considered before artistic.
- (5) Website should have basic instructions, and with audio-visual is better. Software used in the site should choose familiar ones avoiding the obstacle of using.

## 6. References

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