

The Integration of E-learning Platform in Arts and Humanities Curriculum: the “Digital Picture Book” Project-based Learning

Pei-Chi Lu, Doctoral Student
Department of Fine Arts
National Taiwan Normal University
E-mail: peichi.lu@msa.hinet.net

Abstract

There are numerous types of digital arts as well as its learning content. Therefore, it is the main issue of information-applied education at present to effectively integrate and utilize the superiority of digital technology to achieve the basic goal of art education. The “e-learning platform” in this “digital picture book” curriculum provides functions of cross curriculum instruction, collaboration and communication.

This project-based learning refers to the e-learning, the “ADDIE” model, including five teaching procedures: Analysis, Design, Development, Implement, and Evaluation and integrates the “e-learning platform” into the curriculum to assist teaching and learning. The result of the curricular evaluation showed that the goals of curriculum were achieved as expected. Finally, this research proposed suggestions as follows:

1. In the curriculum design, teachers can simplify the digital process to enhance student's learning interests.
2. In the functions of e-learning platform, it is suggested to add “the communication function” to strengthen the interaction, to diversify “the mutual evaluation function”, and to design games “ways of like appraisal”.

Teachers are also suggested to frequently integrate e-learning platform into the curriculum in order to cultivate students' positive attitudes to participate in the curriculum being used to utilizing the e-learning platform to study and in the process, they can further realize the conveniences and effects of the cooperative learning. In this way, the purpose of auxiliary art by e-learning platform can be achieved.

Keywords: E-learning Platform, Project-based Learning, Integrating Information Technology into Instruction, Art Integrated Curriculum.

1. Introduction

1.1. The sources and purposes of the study

With the continually increasing frequency of students' using computers in the era of internet, the integration of information and media into the teaching and curriculum of each subject has become more convenient, effective, and essential methods of learning and teaching (Matthews, 1997). There are numerous forms of digital art and learning content. How to select, effectively integrate and take advantages of digital technology to achieve the fundamental purpose of art education is the issue in current information application. (Erickson, 2005; Krug, 2004; Marschalek, 2002).

The "e-learning platform" has brought functions in full play in integrating the content of digital learning. Its purposes are mainly to assist the integration model of e-learning platform, to perform and record through e-learning platform, including teachers' curriculum design, the students' learning portfolios, and the interaction between the teachers and the students, and proceed self-evaluating after teaching. The e-learning platform can further transmit the content of teaching and works in various forms of audio/video media with its massive stream functions. The teachers and students are able to interact with each other, make up groups on line for the teachers, students or between them, and further achieve the effects of

cooperative learning. Moreover, through the e-learning platform, learning will no longer be limited in a certain space and time. Therefore, the e-learning platform possesses the functions of "Virtual Classrooms" and "Virtual Schools".

The "e-learning platform" has provided with cross-field instruction in the project-based art teaching, and functions of coordination and communication. The processes of digitalized teaching materials resources and students' learning portfolios are saved on the digital platform. The teachers not only can apply the recording function of the digital platform to proceed the review of the related teaching afterwards, the students also are able to proceed repeated browsing learning, communicate the learning accomplishments and what they have learned with the other students, and through peer-groups to stimulate the will of learning and creation with each other, so as to achieve the effects of cooperative learning. The creation of picture book is an instructive cross field curriculum. In the past the main creative forms were in paper, in lack of interaction. Therefore, in order to promote the learning interests of the students, and make them try new creative forms of picture books, the teaching of "digital picture book" is decided to be proceeded in ways of coordination after the process of discussing with teachers. We expected that the integration of information technology can increase the interactions and interests of picture books (Zi Hui Chin & Tsai Pei Syuan, 2003), and the rich and active special effects created by the computer animation software can also make up the inadequacy of drawing skills, so as to help the students to overcome the problems in skills.

1.2. The scope and limitations of the study

The project-based curriculum is proceeded in coordination with ways of teacher groups, and the scope of teaching implement is the elementary school in Taipei where the researcher works. 35 students in total are from one class of the fifth grade who are taught by the teachers of the group, and they use the e-learning platform as the communicative platform of the coordinated teaching so as to overcome the problems caused by the time differences of the teachers group's courses and cross-field teaching materials instruction. And the learning

platform is purchased by the project expense of the school. Therefore, the results of the research mainly apply to the teaching units which have information facilities like internet and computers, projects and the e-learning platform.

2. Curriculum Development

The "digital picture book" project-based teaching is designed mainly referring to ADDIE¹ curriculum mode of digital learning, that is, five teaching procedures: Analysis, Design, Development, Implement, and Evaluation. Each stage of content of the project is stated as follows:

2.1. The Analysis Stage

2.1.1. Analysis of learners

The teaching objects of this unit are 35 students in total of one class in the 5th grade that the researcher teaches art, and they do not have experiences of picture book creation. According to the interview with the director of that class and the regular condition the researcher teaches, it is understood that the reading and writing ability of the students is in the average level. According to the old experiences of the students, the information teacher expresses that their abilities in information are: being able to use Word document software, PhotoImpact images edit software, study PowerPoint briefing software for one semester, the learning experience of Flash animation software learning, and have initial concepts in multiple media making.

2.1.2. Analysis of teaching content

The core of picture book creation is the innovative integration of images and articles. In order to overcome the creation choke point in language, the researcher has revised the fairy tales that the students are familiar with into picture book as teaching materials. It is because

1 The E-learning curriculum ADDIE mode was mostly applied for enterprise's educational training in the past but now its range of application has gradually extended to general E-learning curriculum and now it is a mode of E-learning curriculum widely accepted by the academies and enterprises (Hsu Hsin Yi, 2003; Chang Hsu Ping, 2004).

the roles natures of the characters in the fairy tales are vivid and has distinguishing features, and the plots of the stories are simple and easily understood. Besides, they can be integrated with the students' old experiences and are advantageous for the students to revise and create the stories.

2.1.3. Analysis of media

(1) Analysis of teaching platform

The project-based teaching plan is a project "The plan of establishing internet cooperative learning groups and teacher teams" by Ministry of Education in 2005 when the researcher represented the school to attend and got a project expense to purchase the e-learning platform for the teachers group's teaching curriculum and records. After evaluation, we have selected e-learning platform which is suitable for teaching environments of the elementary and secondary schools, and has fine and practical effects. In order to discuss in this article, it will be briefly named as "E-platform".

The functions of "E-platform" for teachers include: "Management and application of teaching" (save or load the relative contents of the curriculum), "Edit and management of test questions" (the teachers can edit and manage the test papers and questions, and set up the test database of the school), "Setting-up and carrying-out of activities" (the teachers set up on-line learning activities), "Inquiry of each statistic forms" (three forms of the sum-up of activity records, the list of student's evaluated grades, detailed list of the test papers), "Management of grades" (key in and arrange the grades), "Tracking records of learning" (the system can record the on-line browsing time, browsing times of teaching materials, and status of assignment of the students hand-in, etc.), and "The announcement of curriculum information" (It has functions such as the bulletin board, discussion forum, class management, and e-paper-slip, which can increase the communication and interaction between the teachers and students).

(2) Analysis of the "digital picture book" making software

After repeated discussions between the researcher and the information teacher, we decided the selection principle of "digital picture book" making software to be easy learning, interaction, effects of on-line play and convenience, etc. Later, after the researcher and the information teacher evaluated the information ability of the students

and repeatedly tested the advantages and disadvantages of various kinds of software (the result of analysis as Table 1), and eventually chose Swishmax as the “digital picture book” making software.

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the “Digital
Picture Book”
Project-based Learning

Table 1 Analysis of the “digital picture book” making software

Name of software	Kinds of software	Advantages	Disadvantages
PowerPoint	Briefing software	Simple and easy to study	1. Systematized forms 2. The output of web pages forms presented in pages, in lack of changes.
Flipalbum	E-books software	The forms of E-books are exquisite, with diversified selection.	1. A particular play program is needed. 2. Does not have function of sound files inserting page by page.
MediaShow	Multiple media film edit	Able to make simple insertion effect of film.	1. A particular play program is needed when output. 2. Does not have the function of sound files inserting page by page, can only present by insertion effect. 3. Be not able to be shown on web pages
VedioStudio	Multiple media film edit	Able to make simple insertion effect of film.	1. When output is video file, need downloading to play 2. On-line play speed is slow 3. The image itself has no animation, only with a few effects of insertion
PhotoStory	Photos edit	Easy to learn	1. Output is video file . 2. Has no animation effect, only has plain play. 3. Low dpi film files

Swishmax	Animation software	1.Easy for students to learn 2.Many animation effects, output is swf file, able to be viewed on-line	Students are not able to make special motion (i.e. flash)
Flash	Animation software	Animation effects are good	1.Students are needed to provided with basis of computer drawing 2.Levels of animation design skills are too complicated for the elementary school students, and difficult to be guided in.

2.2 The Design Stage

The project-based curriculum of the "digital picture book" includes teaching units: the "understanding picture books", the "creating fairy tales" (creation of the picture book), and the "digital picture book making". The process of the "digital picture book" creation includes ideas of stories revision, the drawing and making of illustrations, and the multiple media creation, etc. The content consists the teaching in the Arts and Humanities, the Language Arts, and the Information Technology field, and is the integrated curriculum focusing on visual art. Meanwhile, it proceed teaching materials resources sharing, the tracking of students learning, and the process recordings of teaching and coordination among teachers, the communication platform between the teachers and the students by ways of the e-learning platform. The content of the teaching activity design is as the Table 2.

Table 2. Curriculum design of the "digital picture book"

Activity 1: Understanding picture books		
Objectives	Process and steps	Time

<p>1. To understand the forms, structure and contents of picture books.</p> <p>2. To understand the steps and skills of the creation of picture books.</p> <p>3. Able to appreciate the picture books with different styles of creation.</p> <p>4. Able to share the picture books which they have read with other students.</p>	<p>I. Playing Flash animation of briefing <stepping in the picture book forest> to introduce the forms, methods of making and creation skills of picture books.</p> <p>1. Forms of picture books Folded books, turning-over books, material books, 3D books, and shaped books, etc.</p> <p>2. The making of picture books Introducing the steps of picture books making : (1) Editing the content of stories (2) Deciding pages (3) Shooting drawings (4) Drafting of pictures and literary compositions (5) Finished</p> <p>3. The structure of picture books (1) Editing according to the orders of front cover, fringed pages, texts, copyright page, back cover, and back side of book. (2) Size: mainly 18.7x25.7cm (16 open), and 17.7x12.3 cm (32 open). (3) Way of open: left open and right open</p> <p>4. The creation skills of picture books (1) The design of layout: ways of type setting, cross page editing. (2) The design of modeling: special characters (3) The application of colors: contrast, gradient, hues (4) The application of source materials: paper carving, watercolor, color pencils, crayon, and oil painting effects.</p> <p>II. To finish the study list of "stepping in the picture book forest".</p> <p>III. Login "E-platform" to share the picture books which the students have read.</p>	<p>1 week (arts class 80min/week)</p>
Teaching resources		
<p><i>Children Culture Mall, Council of Cultural Affairs.</i> http://children.cca.gov.tw/children/index.php (In Chinese)</p> <p>Chen Chien Tin, et al. (2004). <i>Kang Hsuan Elementary School Arts and Humanities. (k5)</i>. Taipei: Kang Hsuan. (In Chinese)</p> <p>Den Mei Yun, & Chou Shih Zhon (2002). <i>DIY Teaching of Picture Books</i>. Taipei: Hsiung Shih Arts Book. (In Chinese)</p>		
Assessments		
<p>1. Able to finish the study list of "stepping in the picture book forest"</p> <p>2. Able to proceed discussing and sharing the picture books which they have read with other students on E-learning platform.</p>		

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the "Digital
Picture Book"
Project-based Learning

Activity 2: How to create fairy tales?		
Objectives	Process and steps	Time
1. To understand the principle and skills of revising stories.	I. Revision of fairy tales and reading guide of picture books 1. Play the reading guide and picture books of the digital teaching materials such as the " <i>Little Red Riding Hood comes!</i> " and " <i>Prince Cinders</i> ", etc.	2 weeks (arts class 80min/week)
2. Able to explain the similarities and dissimilarities between the original stories and revised stories.	II. Team discussion 1. To compare the similarities and dissimilarities between the original stories and revised stories. 2. Forms of revision: (1) Roles exchange (<i>Little Red Riding Hood comes; Three wolves and the big bad pig</i>) (2) Gender changes of important figures (<i>Prince Cinders</i>) (3) Changes of the story scene (<i>The Hare and the Tortoise</i>)	2 weeks
3. Able to apply revised skills and creation to proceed revised scripts of fairy tales.	III. Revision of fairy tales creation 1 Suitable materials of the story 2 Outline of the story 3 Drafts of the picture books story	4 weeks
4. Able to finish the drawing of pictures and literary compositions of the picture books.	IV. Digital picture book illustration creation (paper).	
Teaching resources		
Eugene, T. (2004). <i>The Three Wolves and the Big Bad Pig</i> . (Zen Yang Chin Trans.). Taipei: Yuan-Liou. (In Chinese)		
Babatte, C. (2001). <i>Prince Cinder</i> . (Don Pei Trans.). Taipei: Grimm. (In Chinese)		
Caroline, R. (2004). <i>The rabbit & The turtle</i> . (Wu Men Wun Trans.). Taipei: Hsia-lu. (In Chinese)		
Her Kuan Tsai (1998). <i>Little Red Riding Hood comes!</i> Taipei: Grimm. (In Chinese)		
Assessments		
1. Able to tell the similarities and dissimilarities of the revised stories 2. Able to finish the study list of one's own revised fairy stories. 3. Able to finish the base drawing (paper) making of the digital picture book.		
Activity 3: The making of digital picture books		
Objectives	Process and steps	Time

1. To understand the making steps of digital picture books. 2. Able to use Swishmax animation software. 3. Able to finish the typewriting scanning, and pre-recording of picture books. 4. Able to apply Swishmax software to finish the making of digital picture books. 5. Able to share and discuss the achievements with other students.	I. To make text files of stories by Word edit software. II. To scan pictures (to make E-image files by scanning paper drawing of the picture books) III. Swishmax digital picture book making: 1. Record voice file of each page 2. Insert the voice 3. Make picture animation 4. Put in the captions 5. Adjust the word animation 6. Make menu and ply button 7. Output animation files (swf file) (after finishing the above assignment of each item, these files need to be uploaded to the "E-platform") IV. Share the achievements of learning and make assessments on the task	12 weeks (computer class 40min/week)
Teaching resources		
computer, scanner, Swishmax animation software		
Assessments		
1. Able to use Swishmax animation software. 2. Able to apply multiple media creation digital picture book. 3. Able to share the achievements of learning and make assessments on the task.		

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the "Digital
Picture Book"
Project-based Learning

2.3 The Development and Implement Stage

The development and implement of the curriculum, according to the model of arts project-based teaching will be proceed by integrating e-learning platform and in time applying e-learning platform in the project-based teaching curriculum:

2.3.1. The management of teaching portfolios

It applies functions of saving and loading teaching materials, and leveling management of the "E-platform" to proceed management of

E-teaching materials so that the teachers are easy to manage their own teaching materials and also provide the students with repeated browsing teaching materials.

2.3.2. The process management of students learning

The "E-platform" provides functions to record the steps of students' picture books creation, various kinds of assignment, teaching materials browsing in digital files and statistic forms so that the students are able to make their own learning management, the teachers' control on the status of students' learning and grades assessment of the curriculum.

2.3.3. Mutual-evaluation system

The "E-platform" provides mutual-evaluation functions including 5-star grading and assessment functions as students' mutual assessment when the project-based teaching integrates into each operation of the digital picture book unit (i.e. words of the story).

2.3.4. The interaction function among teachers and students

The researcher sets up an internet study group by applying the discussion forum so that the students can share on-line and exchange reading experiences of the picture books. Besides, they can communicate with the students about their opinions on assignment assessments of picture books in the discussion forum. The function of E-notepad is similar to E-mail. The researcher always uses it to remind the students their assignment hand-in schedule and provide the students with Q&A ducts of on-line learning.

3. Curriculum Evaluation

The "Digital picture book" project-based teaching evaluation include teacher's self-evaluation (the e-learning platform check list, the review of teaching, and the coordinated teachers' interview) and students' questionnaires. The results of evaluation are stated as follows:

3.1. Teacher's self-evaluation

3.1.1. Status and review of teachers' functions on "e-learning platform"

According to the results of the status and review of teachers'

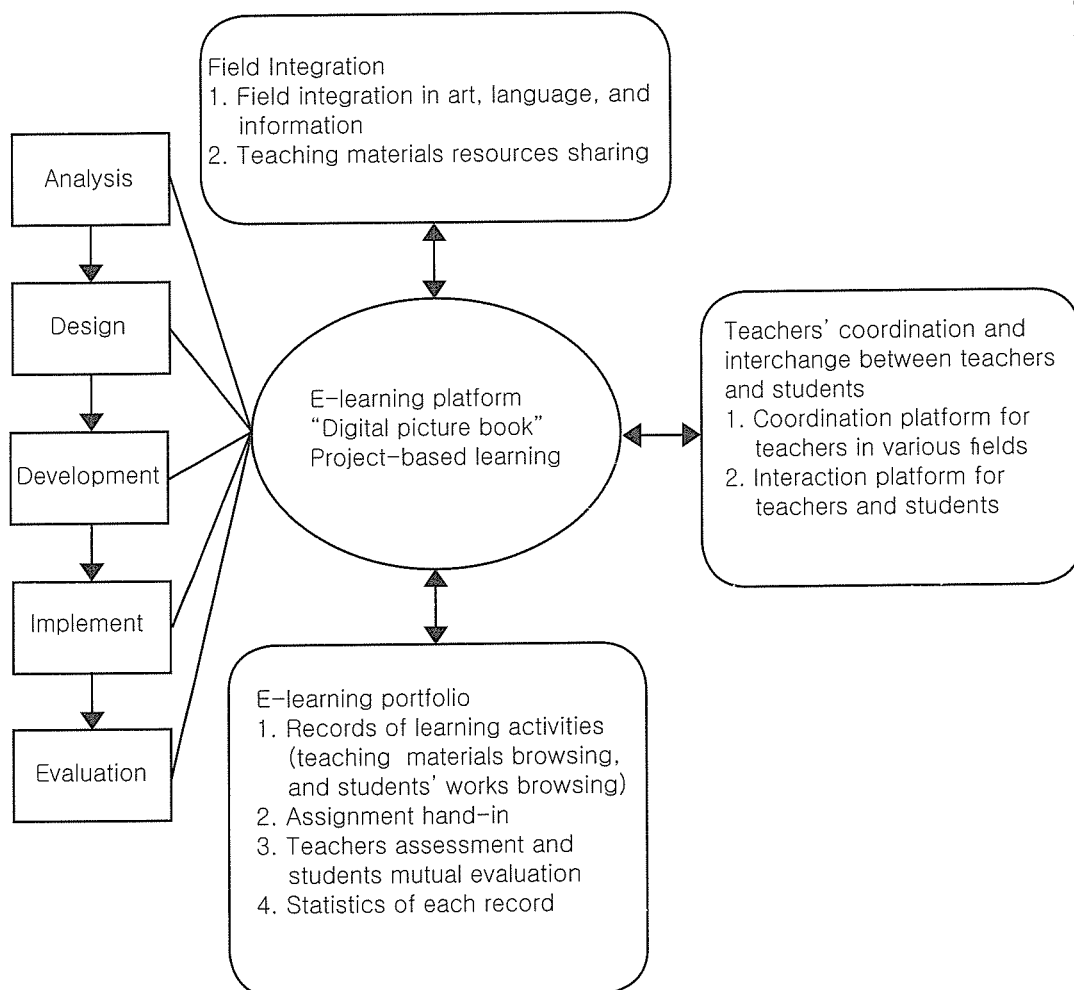


Figure 1 E-learning platform integrated into the model of arts project-based teaching

functions on "E-platform" (see Table 2), the e-learning platform (E-platform) has elaborated records functions in integrated-field instruction and each teaching and learning files in the "digital picture book" project-based teaching in arts. However, it is limited to the

design of platform in limits of authority, each curriculum can only be started in the limit of one teacher and has no teacher group function, which has cause the great inconvenience of coordinated teachers (coordinated teachers have to browsing the complete information by log-in with the curriculum teacher's account).

Table 3 Status and review of teachers' functions on "E-platform"

	Function	Description	Review
Information management	1. Management of students accounts	Directly input csv files of the names and school numbers of the students from the school administration system.	Advantage: able to be inked with the files of the students' information with the school administration system and available and convenient in use.
	2. Management of personal information	Introduction of teacher's personal information.	
Teaching material save/load and curriculum information	1. Management of teaching materials	Set up this unit all the digital teaching materials (briefing, animation, teaching plans, study lists of this "digital picture book" unit).	Advantage: in management ways of sorting index files (create a data file for each activity), the arrangement is clear and convenient for management.
	2. Share area of teaching materials	Proceed coordinated teachers resources sharing in teaching materials sharing area (this unit is for arts and computer teachers to be coordinated).	Advantage: teaching materials resources sharing help to coordinate the teaching effects.
	3. My hard-disk	Used as information saving and back-up.	Advantage: convenient for instant uploading and editing teaching materials with strong mobility.
	4. Bullet in management	To announce relative information of the curriculum (i.e. the beginning of new curriculum and starting discussion forum) and other notices.	Advantage: provided for the students to understand the newest progress of information of the current teaching unit.
	5. Calendar	To announce the beginning and end date of the curriculum and learning activities.	Advantage: has function of reminding students the curriculum and progress of assignment.

Learning portfolio management	1. Management of assignment operation	To set up the students' assignments hand-in time, forms of files, the description of assignment writing, open for browsing and mutual-evaluation functions, etc. The teachers are able to browse the hand-in records and grades of the students on-line.	Advantage: able to manage the status of the students' assignments hand-in and scores at any time so as to control the learning status of the students.
		Mutual-evaluation function: Students can use the mutual-evaluation function to proceed grading (grades of 5 stars) and comments on assignments.	Advantage: mutual evaluation helps to activate effects of stimulating among the students.
			Disadvantage: 1.Can only grade with stars in five levels. 2.Cannot grade on each item. 3. Assignments and mutual-evaluation results cannot be done anonymously, which decrease the equity and objectivity of the assessments. 4. Comment function is not useful. 5. Cannot open mutual-evaluation among classes and lack of group effects and objectivity.
	2. Personal test paper management, school test paper center	Can set up test paper and school subject's database. Current sorts of questions E-platform supports are single selection, multiple selection, true or false, and fill-in.	Disadvantage: does not set up relative test paper. This unit applies paper study list.
	3. Learning activity management and activity form	Has functions of on-line measurement and on-line exams.	Disadvantage: bad on-line exams.
		The record of learning activity (i.e. grade list of measurement activity).	Disadvantage: only one teacher to deliver; does not set up group function of coordinated teacher.
	4.Grades management	Used to key-in grades and statistic, able to output csv file.	Advantage: convenient for grades management and statistics.

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the "Digital
Picture Book"
Project-based Learning

	5. Learning record management	Used to compile statistics of students on-line browsing records, teaching materials browsing records and assignments hand-in browsing records. Output is csv file form.	Advantage: to compile statistics of the students' using status and convenient to analyze and discuss the results.
Interaction function	1. Discussion forum management	Proceed subject discussion related to the curriculum in discussion forum.	Advantage: convenient for opinions communication between the teacher and the students, and among students. Disadvantage: 1. Does not support instant communication interaction mode (i.e. chat-room or MSN messenger software) 2. Does not have group discussion function 3. Does not have inter-class discussion function
	2. E-notepad	Similar to e-mail, used to send on-line information to other students.	Advantage: convenient for transmitting various kinds of information Disadvantage: 1. Need log-in platform to load 2. E-mail function can be executed only if the school has set up mail server.

3.1.2. Review of teaching

(1) The "digital picture book" project-based teaching

I think that the digital teaching materials are very helpful in promoting students' interests in learning and understanding the content of curriculum, but creation of the picture book is still a challenge to those students who are inadequate in languages and picture books. In the Digital making, the computer animation makes the creation content of picture books more abundant and colorful, but to those students who are inadequate in information, the steps of picture books' digital making are so complicated that they will influence the interests and

effects of the overall learning. In the e-learning platform integrated instruction, the main purpose of the digital platform is integrating cross-field teaching contents and recording students' learning portfolios, however, the students are still required to enhance their self-studies and reviews on learning platform and their active attitude in participating discussion in self-study on integrated learning.

(2) The "e-learning platform" teaching

The main problems of teaching are classroom management and rules of using Internet. The teaching platform is required to be used under internet environment, thus, how to prevent the students from entering and browsing other websites which are not related to the curriculum when they are on the net (i.e. game websites) has become the issue of the classroom management. And when discussion forum has appeared messages that are bad or far away from the subject, besides using "sifting-out unpleasant words" function of the platform itself, how to teach the students the internet courtesy has become very important.

3.2 Analysis of the Data

Questionnaires on the students of a 5th grade class the researcher teaches is carried out. Effective collected questionnaires are 35 copies and the averaged age is 10.8 years old. The statistic analysis results of questionnaires are as follows:

3.2.1. Situations of surfing internet

The statistic result has revealed the location where the students are often on net is at home. Among 35 students of the class, 34 of whom have net equipments at home, and 32 of whom have broadband network equipments, which is 94.1%, that shows broadband network has become the mainstream of present bandwidth. And average 3-hour a week time of the students' being on net is the majority. According to what the research has asked and understood, the students are mostly on net in their leisure time on the weekends after they have finished their works. On the aspect that the students use e-mail and communication software, the result shows 48.6% of the students have habits of using e-mail and communication software, which have become one of the student's habit to communicate with the other

students. The whole result can be used as the reference to research and develop functions of the e-learning platform.

Table 4 The general location students are surfing internet

Options	Number of students	Order
Computer classroom	12	2
Common classroom	0	4
At home	34	1
Others (at relatives' or friends' homes or parent's offices)	1	3

Table 5 The internet access frequency of students

Options	Times (n=35)	In average (hour)
Every month	4	2.2
Every week	22	3
Every day	9	1.3
More	0	0

Table 6 usations of students' using e-mails and communication software.

Options	Times (n=35)	Percentage
Has e-mail	17	48.6%
Has communication software	17	48.6%
Neither of the two	1	2.8%

3.2.2 Opinion statistic of the "digital picture book" project-based learning and using e-learning platform

(1) The projected unit of the "digital picture book":

The statistic result has shown the students are satisfied with the project-based learning curriculum of picture books and agree that the digital teaching materials are helpful in promoting interest in learning and understanding the curriculum. What is worthy attention is, in spite the students agree that the digital picture book is more colorful and interesting, their confident in using the animation software to create picture book needs to be enhanced. Some students have expressed that it is because they are not quite familiar in skills to apply the software.

Table 7 Opinion statistic of the “digital picture book” project-based learning

Item		Score	Degree of agreement (score from high to low) n=35					Average
		Percentage	5	4	3	2	1	
The “digital picture book” project-based learning								
Digital teaching materials	1. I think the briefing by the teacher is very interesting, which can promote my interest in learning.	22.9	57.1	20	0	0	4.02	
	2. I think the teacher’s teaching materials can help me to understand the content of the curriculum.	37.2	48.6	14.2	0	0	4.22	
Total average							4.12	
Digital creation	1. I can use animation software creation digital picture book	22.9	51.4	25.7	0	0	3.97	
	2. I think it is very interesting and special to use animation software to create picture book.	42.9	34.3	22.8	0	0	4.2	
	3. I think using animation software create picture book makes me more confident in creation.	37.1	40	20	2.9	0	3.97	
	4. I think the video and sound effects of the digital picture book are more lively and more interactive than common picture book (paper).	28.6	42.9	25.8	2.9		4.2	
Total average							4.09	

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the “Digital
Picture Book”
Project-based Learning

(2) Opinions in using “e-learning platform “

There are six items in student’s opinions in using “e-learning platform “ according to “E-platform”: information area, assignment hand-in, discussion forum, mutual evaluation function, interaction between the teacher and students (E-notepad), layout design, and the last one is the general opinion on the curriculum. The statistic result is analyzed and stated as follows:

(a) Using degree of satisfaction:

The students have expressed their satisfaction with each function of the “E-platform”. The item having the highest degree of satisfaction is “assignment hand-in” function, which has shown the students think

the way is very convenient for them to directly upload the assignment in forms of digital files to the e-learning platform. The degree of actively participating and discussing in "discussion forum" is not very high, which has shown the students' active participation and learning attitude need to be enhanced.

(b) The function and design of system

The design of system is regarded as one of reasons which has influenced the satisfaction degree of the "discussion forum". For example, the "discussion forum" is limited in a class as a unit so it classes or group discussion cannot be carried out, which has then influenced students' will to use. As to the "mutual-evaluation function", although the students think the way of mutual-evaluation is interesting, they have expressed they are not able to give multiple scores or to give anonymously because it is limited by the system, which will influence the equality of giving scores. Besides, the students think the "layout design" can be more colorful. Some students have expressed sometimes they are not able to find the functions they need.

(c) General opinions

The project in coordination with e-learning platform teaching has gained fair assessment of satisfaction degree. The students have expressed they agree to the convenience of the e-learning platform and the assistance in learning. However, they are still inadequate in their confidence and capability in applying the information, which has become the essential to improve the project-based digital teaching design.

Table 8 Questionnaire of the "e-learning platform"

Questionnaire of the "e-learning platform"							
Information area	1. I think teacher the information on "bulletin" about curriculum and assignment hand-in can help me to understand the curriculum.	42.9	37.1	17.1	2.9	0	4.11
	2. I think teachers' briefing on "teaching materials area" can help me view my study.	45.7	37.1	14.3	2.9	0	3.97
Total average							4.04

Assignment hand-in	1. I think it is very easy to hand in the assignment on the platform.	37.1	40	20	2.9	0	4.2
	2. I think it is very convenient to hand in the assignment on the platform.	45.7	31.4	20	2.9	0	4.25
	3. I think the expire date to "assignment hand-in" function can remind me to hand in assignment in time.	31.4	40	28.6	0	0	4.11
	4. I think "assignment browsing" function is convenient for viewing other students' works.	28.6	45.7	25.7	0	0	4.2
Total average							4.19
Discussion forum	1. I think it is very easy to use discussion forum.	31.4	40	28.6	0	0	4.03
	2. I think it is very interesting to discuss with other students in discussion forum.	28.6	45.7	25.7	0	0	4.03
	3. I think it helps me learn to discuss with other students in discussion forum.	25.7	28.6	40	2.9	0	3.69
	4. I will actively go on the discussion forum to open a new topic or response the discussion subject.	8.6	37.1	28.6	22.9	2.9	3.26
	5. I hope to discuss with other students or exchange afterthoughts in discussion forum very often.	11.4	25.7	48.6	11.4	2.9	3.28
Total average							3.66
Mutual evaluation function	1. I think it is very easy to use mutual evaluation.	51.4	31.4	17.2	0	0	4.34
	2. I think it is very interesting to use mutual evaluation.	42.9	40	17.1	0	0	4.26
	3. I think the grades of mutual evaluation are fair.	28.6	25.7	31.1	5.7	2.9	3.8
	4. I think there are not enough functions in mutual evaluation.	11.4	31.4	48.6	8.6	0	3.45
	5. I think mutual evaluation on assignment will make me create hard.	34.3	31.4	31.4	2.9	0	3.97
Total average							3.96
Interaction among teachers and students	1. I think it is very easy to use E-notepad.	34.3	31.4	31.4	2.9		3.97
	2. I think it is very convenient to use E-notepad.	42.9	37.1	20	0	0	4.23
Total average							4.1
Layout design	1. I think the layout design of the platform is beautiful.	20	25.7	48.6	5.7	0	3.6
	2. I think the layout design of the platform is clear so I can easily find the function I need.	25.7	45.7	28.6	0	0	3.97
Total average							3.79

General opinions						
1. I like to use "e-learning platform".	20	37.1	42.9	0	0	3.77
2. I think the "e-learning platform" can help me to learn arts.	34.3	45.7	20	0	0	4.14
3. I hope the teacher will always integrate the "e-learning platform" in the curriculum.	34.3	40	25.7	0	0	4.08
Total average						4

Note: The "e-learning platform" of this table refers to "E-platform" of the project-based teaching.

(3) Other problems

Other problems mainly relate to the difficulties and afterthoughts on the "e-learning platform", which the students are asked to fill in about project-based learning on "digital picture book". The researcher has concluded the results of answers and states as follows:

(a) In project-based learning on "digital picture book" :

The students have expressed the difficulty in project-based learning is mainly on that "slower typing speed" influences the progress, some students think "drawing illustration" and "story revision" are of higher difficulty but they feel successful when they have finished it. Most students think such project-based teaching and ways of creation are quite interesting and a lot of fun, which are helpful in promoting the ability in creating picture book and information. Nevertheless, a few students think it difficult to create picture books by the animation software.

Table 9 Major difficulties of "digital picture book" project-based learning

	Times (n=35)
Typing too slowly	9
Difficult in using animation software	2
Recording(always no noise interring)	3
Scanning pictures	1
Overall digital making	6
Story revision	4
Illustration drawing	6
Cannot catch up with the schedule	4

Table 10 Afterthoughts on digital picture book learning

	Times (n=35)
Very interested in digital picture book curriculum (creation methods and content)	17
Increase computer capability	9
Understanding the creation methods of digital picture books	5
Animation creation difficulty	4

(b) Applying the "e-learning platform"

The researcher has concluded that most students express the applying steps of the "e-learning platform" are easy and almost without any difficulties. After analyzing the students' responses, their difficulties are that they are not quite familiar with platform functions. "There is a problem in connection" was because during the project-based teaching was carried out; the computer system of the school had faults which caused occasional disconnection, which means the maintenance of the "e-learning platform" exactly requires support from a stable computer system.

As to the expected increasing function on the "e-learning platform", the students have expressed functions of "games area", "instant communication", and "chat" can be added, which means the students' expecting to carry out communication function on the "e-learning platform". As to the "games" function, the researcher thinks the measurement ways of guiding games into learning to promote the students' interests in learning. Besides, there are many suggestions proposed the students in object to "mutual evaluation function", which has reflected the future design on "mutual evaluation function" should be diversified, for example, functions of grading, commenting and showing drawings of works can be added.

As to how the "e-learning platform" helps learning, what the students have approved the most is "the convenience of making use of learning platform to hand in their assignments", the next one is "the enhancement of computer capability" and the whole assistances and benefits (including arts and information learning), which might be because the students now often use computer classes to carry out digital making and upload their assignment to the e-learning platform.

Table 11 The difficulties in using
"e-learning platform"

	Times (n=35)
Cannot find functions or assignments	3
Other problems of operation(i. e. forms of upload files)	1
Connection problem	0
Slow connection speed	1
Forget password	2
Forget website	2
No computer (net) at home	2
Difficulty in overall function operation	1
No difficulties	21

Table 13 The learning assistance on the
e-learning platform

	Times (n=35)
Learning arts	5
Computer upgrading	6
Learning at home	3
Convenient to hand in assignment	10
View and emulate other students' works	4
Overall help (arts and computer)	6
No help	1

Table 12 Expected increased functions in
the e-learning platform

	Times (n=35)
Chat	3
Message board	1
Teaching materials area	1
Anonymous mutual evaluation	1
Mutual evaluation photos paste function (directly scoring directly in contrast with the photos of works)	1
Increase levels of mutual evaluation	1
Mutual evaluation grading	2
Group discussion	3
E-mail	1
Instant communication	3
Video-cam	1
Films teaching	1
Amusement area (films)	1
Extracurricular reading	1
Internet resources	1
Games area	9
Game learning	1
Assistant (instruction and help)	3

4. Conclusions and Suggestions

The integration of the e-learning platform into the "digital picture book" project-based learning, in general, has achieved the expected goals of teaching. The students have learned the forms of picture books and the steps of creation, pictures and literary compositions of the picture book and digital creation. Besides, the e-learning platform has also elaborated functions of integrating teaching materials, instruction, and learning portfolios. However, the students' confidence in digital

making and the positive attitude in applying platform learning need to be enhanced, which shall require the training of information and the promotion in the applying proficiency of software media and materials to increase the students' confidence in creation. Besides, an evaluation is need to simplify the steps of digital making to avoid the students' interest decreasing in learning due to the complicated process. As to increasing students' positively applying the platform, the researcher regards it can be started by improving "interaction functions", and enhancing the discussion and communication functions on the platform. Meanwhile, "mutual evaluation function" is also needed to be enhanced to make it diversified and conformed to equality. And as to "ways of assessment", ways of games can be guided to add the fun and interest in it. In the end, the researcher thinks that art teachers are required to often apply "E-learning platform" into art integrated curriculum so that the students can participate in many ways, and involve in the curriculum forms of platform project-based learning. Thus they will be able to make the students keep habits in applying the digital platform to learn and realize the conveniences and effects of cooperated learning from it. Consequently, the goal of applying e-learning platform to assist arts learning can then be achieved.





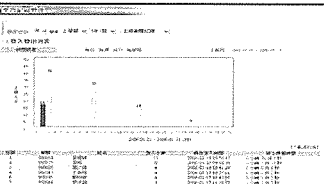
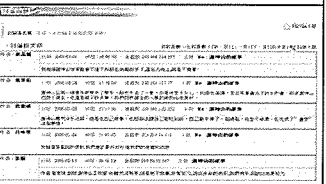
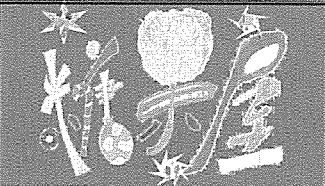
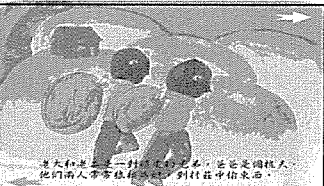
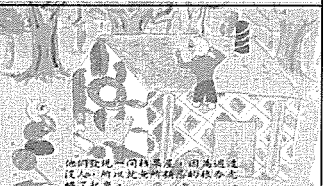

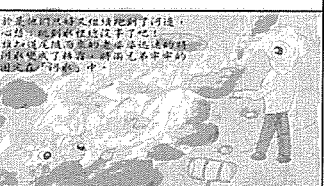
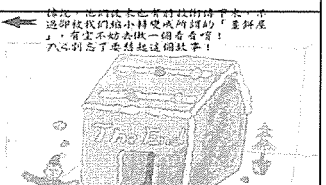
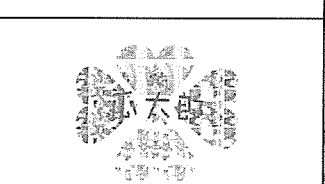
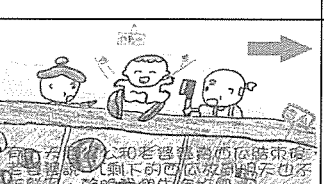

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the "Digital
Picture Book"
Project-based Learning

References

- Hsu Hsin-I (2003). The initial research on the development modes of e-learning curriculum. *Journal of Education Research*, 116, 15-30. (In Chinese).
- Chang Hsu Ping (2004). When teaching designs meet e-learning. *e-learning Industrial Promotion and Development Plan*. Retrieved Feb 27, 2006, from <http://www.elearn.org.tw/eLearn/NewsView/IDView/> (In Chinese).
- Chi Huei Chin, & Tsai Pei Syuan (2003). The teaching design modes of interactive E-story books. *ICICE2003 3rd Mandarin Internet Education Seminar*. Grand Hotel, Taipei, Taiwan. (In Chinese).
- Erickson, M. (2005). Teaching for transfer through integrated online and traditional arts instruction. *Studies in Arts Education*, 46(2), 170-185.
- Krug, D. H. (2004). Leadership and research: Re-imagining electronic technologies for supporting learning through the visual arts. *Studies in Arts Education*, 46(1), 3-5.
- Marschalek, D. G. (2002). Building better web-based learning environments: Thinking in "3s". *Arts Education*, 55(4), 13-18.
- Matthews, J. C. (1997). *Computers and Arts Education*, ERIC Digest. (ERIC Document Reproduction No. 410180).

The Integration of
E-learning Platform in
Arts and Humanities
Curriculum: the "Digital
Picture Book"
Project-based Learning

Appendix: Project-based teaching records of digital picture books

		
<p>Fig. 1 E-teaching materials—"Understanding picture books" animation</p>	<p>Fig.2 E-teaching materials—"Understanding picture books" animation</p>	<p>Fig.3 E-teaching materials-animation teaching films</p>
		
<p>Fig. 4 Computer animation teaching</p>	<p>Fig. 5 Status of e-learning platform using</p>	<p>Fig. 6 Discussion forum-exchanges of reading afterthoughts on picture books</p>
		
<p>Fig. 7 Student's "digital picture book" work- "Candy house"</p>	<p>Fig. 8 "Candy house" - excerpt 1</p>	<p>Fig. 9 "Candy house" - excerpt 2</p>
		
<p>Fig.10 "Candy house" - excerpt 3</p>	<p>Fig. 11 "Candy house" - excerpt 4</p>	<p>Fig. 12 "Candy house" - excerpt 5</p>
		
<p>Fig.13 Student's "digital picture book" work- "Melon-taro"</p>	<p>Fig. 14 "Melon-taro" - excerpt 1</p>	<p>Fig. 15 "Melon-taro" - excerpt 2</p>