Information-based Study of E-Commerce Website Design Course

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***Abstract*—Currently information-based teaching is more and more popular in many colleges, how to construct Electronic Commerce website design lesson is also an important research in the construction of informatization. This paper analyses the disadvantages of information-based teaching, the corresponding methods and implementation plan. This paper demonstrates the structure diagram of information-based teaching platform. Moreover, this paper proposed a new teaching method named "teaching method with eight incremental steps". Finally the statistical data further proves that information-based teaching inspires the studying interests of students, and the platform improves the interaction between teachers and students and enhances teaching quality and effectiveness of lesson.**

***Index Terms*—information-based teaching, EC website design lesson, learning resources**

I. INTRODUCTION

With the rapid development and widely used of information technology, using information technology such as computer and network to deepen teaching content, innovate teaching mode, promote the effective use of teaching resources, expand the coverage of education, improve the quality of teaching is the inevitable trend of the information-based teaching in universities and the important strategic of healthy and sustainable development of higher education. The construction of information-based teaching is the emphases of higher information-based education. The constructing level is the most important scale to measure the effectiveness, impression and status of running a college. The national document [1] of compendium of educational innovation and development for long term proposed that the information technology has revolutionary effect on education development, which must be paid more attention to. UCISA (Universities and Colleges Information System Association) in Britain conducted a study on 264 colleges. The result showed that, on averages, 76% of colleges have drawn the development plan of E-learning in order to advance the teaching quality and satisfy the study needs of student [2].

As a professional product of network teaching platform, in addition to the function of facilitating the teaching, Blackboard enhances the applications of communication and evaluation, and has the easy-to-use and powerful features [3]. Through Blackboard teaching platform, teachers can efficiently manage lessons, make content, assign homework, and test online. All of above functions of Blackboard can help students study easily, communicate with pleasure, participate with passion, also help to improve the level of teaching online and realize the profound innovation of teaching system and methods.

II. EXISTING DEFECT OF INFORMATION-BASED TEACHING

Although EC (electronic commerce) design lesson is only one of elective course of EC profession, the arrangement of teaching content, organization of procedure, and level of teaching have great effect on basic education, practical experience and comprehensive quality training. Currently the communication tools of students after lesson are telephone and email, so there are many problems in teaching. The problems are the following three points:

A. Conservative Ideas and Backward Form of Teaching

45 minutes of traditional teaching lesson is very limited for many demos could not be demonstrated to student. Although Guangdong University of Business Study has introduced Blackboard network teaching system which can be uploaded many learning resources, but the practical effect is not ideal. Some teachers who has still followed traditional teaching model only uploaded powerpoints without facilitating the development of teaching by using the information-based technology.

B. Isolated Island of Teaching Resources

By concluding from using instances of network lesson, we has find that many resources of teachers are relevantly independent, just like many isolated islands. These resources are rarely shared by other teachers, so the resource utilization rate is very low.

C. Lack of Monitor, Evaluation, Feedback in Teaching

The paper has carried out the questionnaire survey aimed at the problem "for the existing network curriculums, which do you think is the most urgent to improve?" As shown in TABLE I, the survey indicates that the most urgent aspect needed to be improved is "the intercommunion between student and teacher is too little", 64.2%. Students have an eager to communicate and interact through the network learning platform. With the help of Blackboard system, such as notification, discussion boards, message and homework area, not only

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the human-computer interaction can be achieved, but also the communications between teachers and the students, or students and students can be performed. Forum can be divided into a few discussion sections, for example, “the section of webpage art design”, “the section of advertising design”, “the section of commercial website”, and so on. Through communication in the forum, students can improve independent thinking ability and literal expression ability. At the same time, in curriculum design teachers can take full account of the nature of teaching content, provide better theme, promote development of discussion, achieve the effect of teaching.

TABLE I.
THE QUESTIONNAIRE SURVEY AIMED AT THE PROBLEM “FOR THE EXISTING NETWORK CURRICULUMS, WHICH DO YOU THINK IS THE MOST URGENT TO IMPROVE”

No	Aspect	Value
1	The quantity of pictures is too small	10.6%
2	Video contents are not enough.	30.7%
3	Animation amount is too little.	16.8%
4	The interface is not beautiful.	33.5%
5	Interactions are not enough.	50.8%
6	The intercommunion between student and teacher is too little.	64.2%
7	Expanding documents are too few.	48.6%
8	Teaching the courses is mainly in the traditional way, therefore Inquiry learning, case studies and other forms of teaching are required.	57.5%

In traditional teaching lessons, we evaluate the effect through the feedback and research from student and tracking assessments. Therefore, we can not track the exact information, and this will be the bottleneck of improving the study effect and affects the assessment of lesson.

III. MEASURE OF INFORMATION-BASED TEACHING

A. Create a Diversified and Reasonable Classification of Learning Resources

Through information-based teaching, not only courseware but also other resources can be uploaded to Blackboard. Resources in BB platform is grouped into lessons cell, including teachers’ info, introduction of learning method, teaching program, teaching plan, teaching resources (PPT, exercises after lessons, self testing practice and answer, classic PPT and comment), expanding resources, homework, online testing, discussion area, video, assistant resource, exercises DB and answers, many classic cases and website material and so on, every cell has a description and definition of its function and content [4].

As to the specific application, EC lessons group the resource into asp.net, JSP and PHP by different technology of network design, in order to help student master several languages of developing website. Therefore, student formerly can not obtain resources from lessons, now they can obtain more and more knowledge from BB platform.

B. Create a Way of Learning based on Student-Independent,Teacher-Led and Teacher-Student Interaction

In order to realize information-based teaching, we must get rid of the fetters of the traditional ideas and transform the idea of knowledge inculcation into the idea that student are main body and teachers leads student to study. We should give more learning autonomy to students, reasonably use of teaching resources, design, develop, organize, manage and monitor the whole teaching procedure [5]. This paper proposed a new teaching method named “teaching method with eight progressive steps” which is based on student-independent, teacher-led and teacher-student interaction.

C. Strengthen the Resources Sharing of Teachers

Teachers and students construct study resources together, and extend the scope of resources. Learners can upload the resources they collected, e.g. text, image, video, audio, PPT, learning website, network lesson, blog and so on, also upload the hyperlink to corresponding cells which is related to resources to realize resource sharing and raise the utilization rate of resources. Learners can publish their opinions about uploaded resources, communicate and discuss with each other.

Teacher who teaches EC website lesson can share resource with teachers who teach EC system lesson or web page development and management, for many chapters are repeated. Therefore teachers can share teaching experiences and resources with each other.

D. Create Interactive Leaning Resources, Strengthen Feedback

Based on information-based teaching on Internet, classroom space can stretch to every location which is covered by Internet. Therefore, information-based teaching can help to shorten the distance of teachers and students, and help to efficiently communicate between them. Blackboard network teaching system has many resources, so we must design teaching content according to before lesson or in lesson or after lesson. For example, we can assign teaching task before lesson and let students make good preparation; we can teacher lesson combined with network resources, as video, paper, cases and so on; we can assign homework and test after lesson. We can realize teaching activities through network, as answers to constant problems, individual coaching, discussion of problems, and discussion of cases and so on. Through the discussion area of Blackboard, we can realize interaction between teachers, teachers and students, students and students; students can communicate and discuss the integration of IT and lesson, design scheme of teaching, teaching content and video cases. Students and teachers discuss the same subject through BB platform, so the discussed subject will be pertinent and analyzed in depth. Finally in this way students can improve their ability of analyzing problems, resolving problems and logical thinking. Except for obtaining more knowledge, students can feedback more quickly and communicate more easily.

Blackboard network teaching platform is a lesson management system through Internet [6]. Through BB

platform, we can upload related teaching files of EC website design lesson, such as teaching program, teaching plan, PPT, exercises, videos of teaching and so on. In this way we can remedy the defect of limited class hour and less information of teaching in traditional teaching, strengthen the interaction of students in discussion area, improve Learning autonomy, extend the scope of studying from classroom to outside of classroom, inspire the passion of studying and improve the teaching effect. Blackboard network teaching platform requests teacher to pay more attention on dynamic changes of website, answer to problems of students and update the resource of website. In this way, students can keep more interests in lessons and the network platform can give full play to its function.

V. Information-based Implementation Plan about Electronic Business Website Design Lesson

A. Creates Staged Curriculum Plan

First, the talents training goal of e-commerce sites design lesson has been subdivided and positioned. The goal is that students can independently design, develop, product and maintain the website through the teaching and experiment on the information platform.

Secondly, the required knowledge system is constructed for training goal. Students need to master the webpage making, website design, website maintenance and other curriculum knowledge, at the same time in order to build a site they need to master image processing, animation, the technology of background database supporting. The structure diagram of knowledge system is as Fig. 1.

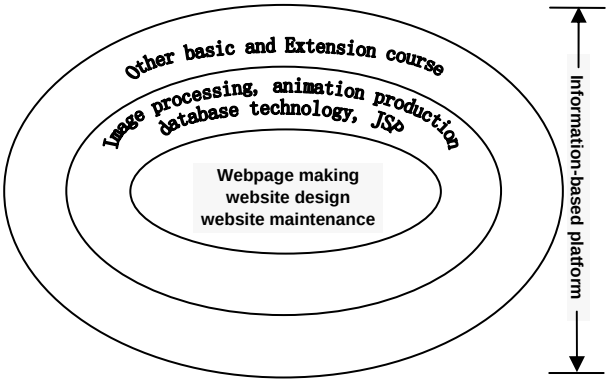

Figure 1. The structure diagram of knowledge system

Finally, the stages and scheme of curriculum design are set down stage by stage as TABLE II. Students can achieve a specific goal of each stage under the staged curriculum training mode. Information-based platform is used throughout the course. Teachers organize and plan the teaching. At the same time, students make full use of information-based platform for learning. In this way, students are cultivated to be professional talent.

TABLE II.
THE STAGED CURRICULUM PLAN OF ELECTRONIC BUSINESS WEBSITE DESIGN LESSON

Stage	Staged training goal
1	Learn to make simple webpages with Dreamweaver tool
2	Skilled in using Photoshop and JavaScript to make dynamic webpage, build a simple personal website
3	Learn through the information-based platform, and assessing the effect of personal website webpage design and making.
4	Learn to connect database, and design the interactive website through teaching and information platform.
5	Learn to design the function module of website, define the table and keywords of database, and define classes.
6	Learn through information-based platform, and comprehensively assess own personal website in the aspects of design, function, interface, maintenance and updating management.

B. Construct Personal Information-based Teaching Platform according to BB Platform Function

Based on the blackboard platform, this paper has independently designed the teaching platform of electronic commerce website design lesson. The structure diagram of the platform is shown in Fig. 2.

Based on the blackboard network teaching platform, the content of information teaching platform of electronic business website design lesson is mainly divided into two parts, the Public Column and the Teaching Column. The Public Column is about introduction of the course, and the Teaching Column is about working process guide.

(1) Teaching resources can be obtained through the Public Column, i.e. video, electronic teaching plan, the different experimental tasks, reference materials, excellent works, etc. Teaching resource includes many multimedia materials, which benefit student a lot. As the description in [7], instructional actives under the environment of multimedia technology can stimulate students' interest and mobilize their enthusiasm in learning.

Especially the different experimental tasks, not only deepen students' understanding of the course, but also improve their ability of analysis, design, production and site management. Salmon pointed out that if we want to bring satisfactory of network learning experience to students, the management is one of the important means to successful construct network teaching [8]. When we designed and used platform, we must design clear guidance information and give a clear requirements and evaluation standards for students to participate in. At the same time we must provide independent participation platform to students.

Students are looking forward to attain the confirmation from teachers about their works. Through every experimental task, teacher chooses some representative works, and upload to Blackboard platform to share. Students can express their views in the forum. In this way, motivation of learners can be promoted.

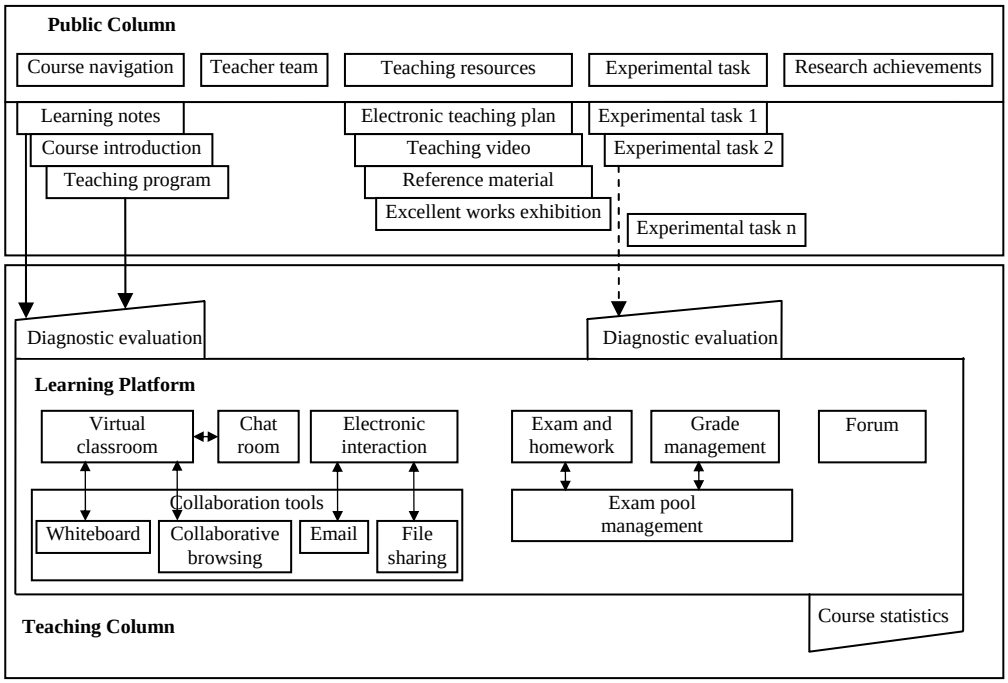

Figure 2. The structure diagram of information-based teaching platform in Electronic Commerce website design lesson

(2) In Teaching Column, using Exam and homework, teachers can make the final evaluation to individual homework, interest group homework, special homework, project homework, and take statistics analysis on the grades data of students through Grade management, finally make an accurate judgment to the students' ability.

Collaborative tools of Blackboard platform can effectively support the collaborative learning of students, which includes Virtual classroom, Chat room and Electronic interaction. Chat room supports real-time chat in text, which enhances the exchange communication of students in real time. In addition to chat in text, Virtual classroom also supports Whiteboard, Collaboration browsing, Questions and Answers Collection as well as Exiting from Virtual classroom.

Teachers can also use the Course statistics of blackboard network teaching platform which has strong background monitoring function. By use of Content tracking tools in Course statistics, teachers can obtain the tracking statistics of study information, and accurate statistics of login clicks times of students. But if evaluating from the access times and the work' completed situation of students each time, teachers can only draw a one-sided conclusion. Thus, teachers should set specific scoring criteria of learning. According to the students' learning time, participation of network forum and speech quality, real-time interactive situation as well as the resource contribution, with the integration of teaching strategies based on resources and the teaching strategy based on experimental task, using Virtual classroom, Chat room, Electronic interaction, Exam and homework, Grade management, forum and so on, Single summative evaluation can be realized for the present experimental teaching effects of students, the evaluation is also diagnostic evaluation arranged for the next experiment task, finally teachers can give pluralistic evaluation to the students. Course statistics data of blackboard platform of Guangdong University of Business studies is as shown in Fig. 3 and Table III. The diagram and table shows that the most frequently accessed section for students is forum for communicating, followed by Teaching resources for downloading, then is Exam and homework. From the data, it has been proved that information-based platform provides a powerful function, which can help teachers and students interact with each other. At the same time, tracking function of platform can help teachers to track the learning effect, to improve their teaching methods and teaching focus.

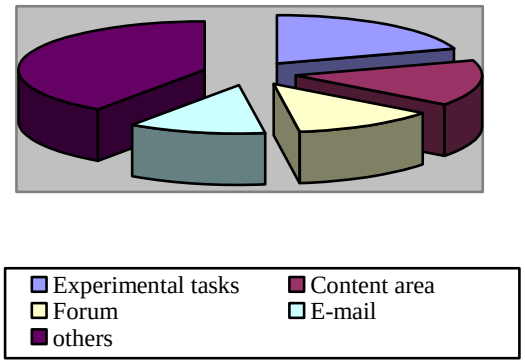

Figure 3. The pie chart of statistical data of course in Oct, 2012

TABLE III.
THE TABLE OF STATISTICAL DATA OF COURSE IN OCT, 2012

Area ID	the numbers of click	Percentage	Area ID	the numbers of click	Percentage
Personal information	1	0.01%	Grade Center	919	5.35%
Content area	2602	15.14%	Grade indicator board	115	0.67%
Forum	2172	12.64%	Copy a file to Collection	753	4.38%
Electric Blackboard	50	0.29%	Check the Collection link	689	4.01%
experimental task	3445	20.05%	Content Collection	0	0%
Collaboration	895	5.21%	Address book	1	0.01%
Exchange area	36	0.21%	Glossary	1	0.01%
E-mail	2067	12.03%	Roster	0	0%
Digital transceiver cabinet	457	2.66%	Safe Assign	0	0%
Electronic filing	146	0.85%	Tools area	6	0.03%
My grades	1299	7.56%	Early warning system	1	0.01%
Notice	1524	8.87%	Schedule	0	0%
News	2	0.01%			
Total	17181	100%			

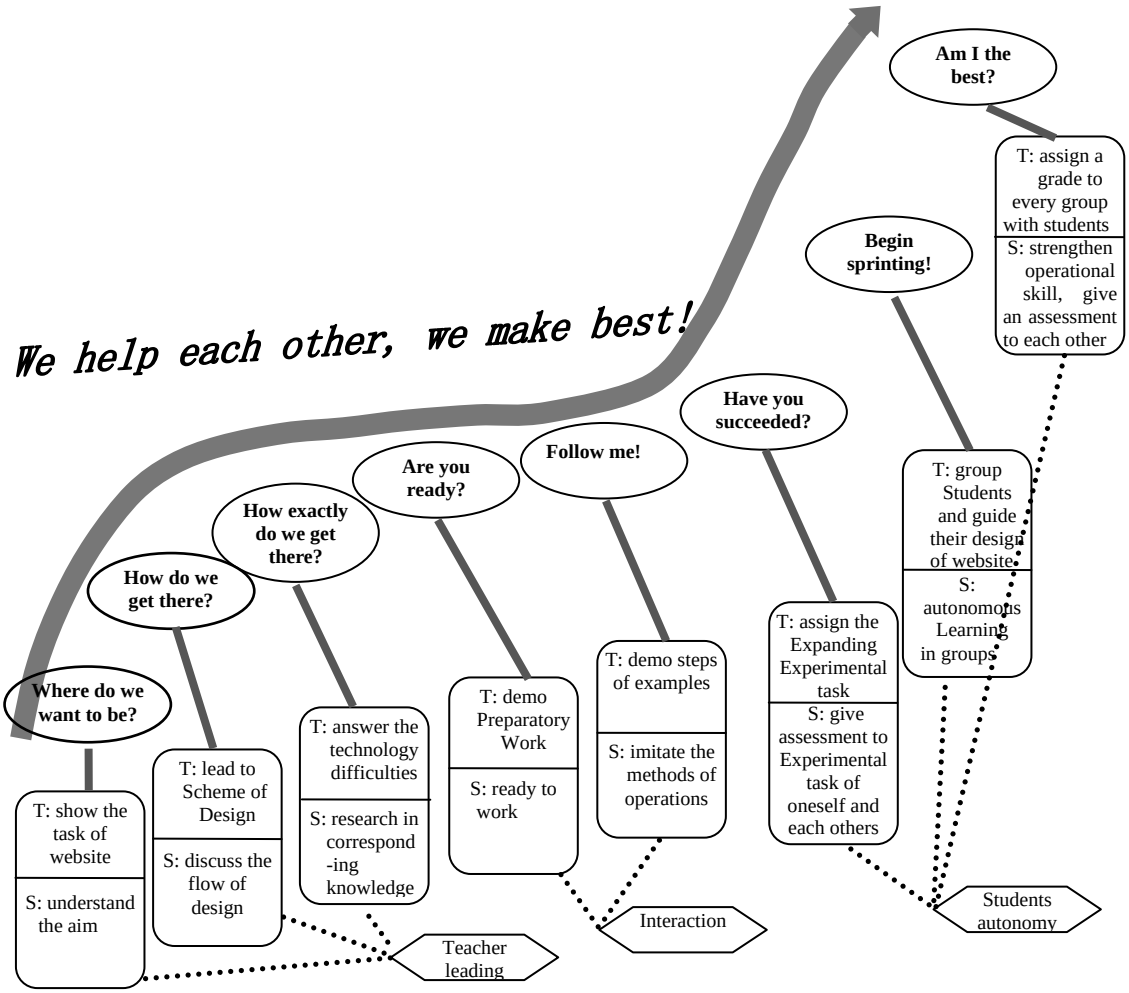

Figure 4. teaching method with eight incremental steps（T-Teacher, S-student）

C. A New Teaching Method-" Teaching Method with Eight Progressive Steps"

Through the design procedure of EC website lesson, based on different teaching content, this paper proposed a new teaching method named "teaching method with eight progressive steps" as Fig. 4. The aim of lessons is to design an EC website with friendly interface, convenient communication, simple operation and dynamic appearance. The experimental tasks should be finished in groups. So during the process of cooperative learning, team members support and communicate with each other, which can enhance the trust between team members, this help them develop good relationships[9]. In designing the

experiment, we should broaden the condition of topic in order to let students select technique which they like to develop website, and divide students into groups and let them finish website in groups. At the same time we should demo and explain the excellent scheme of former students, encourage students to explore higher technique. As to some doubtful points, we can design some expanding homework to let student conquer these basic threshold through the cases of homework, for example linking to DB, so student can save more time to study some higher knowledge of design website. At the end of lesson, every group demonstrates website, teachers and students together give score to every group. In this way students can learn and encourage each other.

VI. Possible Problems

A. Some Possible Copyright Problems

Firstly, “comes out" of one course is not a simple matter, after a lot of hard work of teachers, as producing, modifying, making perfect, selecting process and so on, the course transforms to the final product. So the original courseware copyright protection is very necessary.

Furthermore, the teachers-collected resources which are collected from Internet, inevitably involved in some copyright problems, especially that we must mark the source on the site when downloading commercial software.

B. Some Possible Safe Problems about Server of Information Technique Center

Any web site may be vulnerable to hackers and virus attacks, so there must be a security policy to ensure the legitimate user of the legal service. We must have data backup, access control and anti virus strategy.

VII. Conclusions

In conclusion, college teachers and students should actively study and apply information knowledge, information technology, continuously improve their information accomplishment, actively use information-based environment conditions and information platform of colleges and universities, effectively integrate information technology with their own teaching and learning. Because of the nature of technological, information-based teaching has won more and more universities’ favor, and it will become the trend of new teaching model reformation and development. The exploration and research of information-based teaching construction will be way which can not be passed for higher colleges in order to advance resources share, strengthen the communication between teachers and students, consolidate and promote the teaching reformation.

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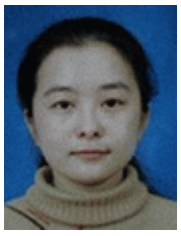

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