Research on Teaching Reform of Web Design Course in Colleges and Universities

Rong Mei*

Hohhot Minzu College, Hohhot 010051, Inner Mongolia Autonomous Region, China

***Corresponding author:** Rong Mei, jigasu@126.com

Abstract: Web design is a key course for computer majors in colleges and universities, and it has the characteristics of comprehensiveness and practicability. In order to ensure the quality of web design teaching, teachers need to formulate appropriate teaching strategies in combination with teaching content and student characteristics. This paper summarizes the problems existing in the teaching of computer web design in colleges and universities, studies the effective strategies and related aspects of computer web design teaching in colleges and universities, and hopes to provide guidelines and information for relevant teachers.

Keywords: Colleges and universities; Computer major; Web page design; Teaching

1. Introduction

The teaching of web page design for computer majors in colleges and universities involves many knowledge points, which require students to flexibly apply their understanding and memory, and then improve their practical skills. At this stage, there are many problems in the teaching of computer web design in colleges and universities. Some teachers still use the traditional indoctrination teaching method. To this end, teachers need to analyze existing teaching problems, strengthen teaching reform, and formulate comprehensive teaching strategies to promote the improvement of teaching quality.

2. Existing problems in the teaching of computer web design in colleges and universities

2.1. Outdated teaching methods

Currently, some colleges and universities still adopt the teaching mode of combining theoretical and experimental courses in the teaching process of computer web design. The proportion of experimental courses is relatively small with little independent thinking space. Experimental teaching is mainly based on teachers' demonstration and students' imitation, thus students have less opportunities in hands-on practice. Students'

creativity cannot be effectively brought into play, and their practical skills cannot be effectively improved [1,2].

2.2. Decentralized body of knowledge

In the process of conventional web design teaching, teachers explain HTML language, the use of Dreamweaver tools, etc., based on textbooks. There is a problem of scattered knowledge points in the mode of single-chapter explanation. Students cannot connect different knowledge points, nor can they establish an overall understanding of web design, which in turn leads to the low quality of web design assignments submitted by students.

2.3. Outdated teaching content

Computer web design in colleges and universities has strong applicability, and the tools and technologies used in the design process are updated quickly. However, the update cycle of web design textbooks is long, which prevents students from learning the latest web design knowledge. At this stage, the web design textbooks used by computer majors in colleges and universities include textbooks that simply explain HTML and Dreamweaver tool webpage development textbooks. The former focuses on explaining theoretical knowledge and students are less interested in learning, while the latter focuses on cultivating students' practical skills. However, the content is outdated, which can affect the improvement of students' development and design level [3].

3. Effective strategies for the teaching of computer web design in colleges and universities

3.1. Project teaching method

The main feature of the project teaching method is that teachers and students complete a simple project together. During the process of completing the project, students can accurately understand the theoretical knowledge of web design, and learn the practical skills. This can cultivate students' professional quality and create favorable conditions for them to participate in web design related work in the future [4]. For example, in the teaching process of static web design, teachers can use the project teaching method to complete the teaching of relevant content in order to achieve the ideal teaching effect. Before teaching, teachers need to complete the relevant preparations for the teaching environment such as multimedia computer room, Flash, Fireworks, Photoshop, Dreamweaver8, etc. The teaching goal should be determined as follows: students can master the basic methods of website establishment, and web design and production; students can use web design software to process relevant materials correctly; students can use various tools to independently complete the design, editing, and production of static web pages.

In the process of applying the project teaching method, the teacher needs to adopt the following teaching process. First, the students are divided into several groups, and a web design and production project with a specific theme is arranged for each group member. This project requires the web design and production to meet the requirements of the CI specification, in line with the overall image of the client's enterprise. Students need to rationally design the pictures, colors, and layouts of the webpage to ensure the overall effects, by using the color and font processing skills explained by the teacher in the webpage design process. The background design skills in the design plan and text layout skills are also used, to ensure the beauty and practicality of the web page. The total time for project completion is 15 days [5]. Next, the group members discuss and formulate the project plan, and submit the plan to the teacher. The teacher identifies the problems in the research plan, assists the group members to modify the plan, and determines the final plan. Then, the team members divide the work according to the final plan, and are each responsible for market analysis, website positioning, content planning,

structure planning, technical solution selection and implementation, etc. Each member implements the plan according to their own responsibilities. If obstacles are encountered during the implementation of the plan, the team members need to discuss and resolve them, and submit the relevant content to the teacher after completing the project. After submission, the teacher evaluates the projects submitted by each group. Self-evaluation is first carried out by group, in which group members are required to evaluate from the perspectives of project division and collaboration, webpage design aesthetics and innovative practicability, webpage conception, and whether the webpage theme meets the project requirements. After self-evaluation of the group members, mutual evaluation among the groups is carried out, focusing on the aesthetics, practicality, and innovation of the web design. Lastly, the teacher makes the final evaluation of the project, points out the advantages and disadvantages of each group in web design, summarizes the knowledge related to web design, and answers students' questions, so as to improve students' theoretical knowledge and practical skills.

3.2. Task-driven teaching method

The task-driven teaching method is a teaching method widely used by teachers of various subjects. Its main characteristics are that teachers create teaching situations, assign learning tasks for students, and guide students to actively explore knowledge based on the task content. Compared with the conventional indoctrination teaching method, the task-driven teaching method takes students as the core, which can stimulate students' independent exploration and active learning, keep students in a positive learning state, and then improve students' knowledge and ability to solve problems [6]. In web design teaching, teachers can also adopt task-driven teaching mode to achieve teaching effect. For example, when explaining the content related to web design for the first time, teachers can show students examples of static websites, so that students can form a preliminary understanding of web design, and explain DreamweaverCS6 and other content to students, so that they can master the basic skills of web design. After the explanation, the teacher can assign tasks to the students such as writing a web design proposal report, in which they need to write down their ideas about web design in detail. For establishing a local site, teachers need to explain to students about the function of establishing a local site, introduce absolute paths, relative paths, etc., and explain in detail the method to establish a local site. Then, students are required to build a local site by themselves, to estimate the specific size of the website, add web pages, and complete the name change. Another example is that students learn to add the webpage title, keywords, and notes, and add the webpage header information by themselves. The method of establishing hyperlinks is first explained, then students need to complete the production of the navigation bar by themselves. For adding multimedia and form-related content, students are shown how to add pictures, background music, scroll bars, and Flash, and how to set and add forms. Then, they need to prepare pictures, music, Flash, etc., and add them to the webpage for user login and registration pages of the website. The application strategy of Cascading Style Sheets (CSS) is explained to students and they are required to add external and internal style sheets of the website. When explaining the content of the website, the teacher introduces the method of using Internet Information Services (IIS) to complete the release of the local area website, and asks the students to publish and visit the website. After completing the task assigned, the students need to submit the task and participate in the defense. The teacher will comment on students' completion of the task, point out the strengths and weaknesses of the students, and provide guidance, thereby promoting the simultaneous improvement of students' theoretical and practical skills [7].

3.3. Blended teaching model

The main feature of the blended teaching mode is the combination of the network teaching mode and the traditional teaching method. Through the complementary advantages of the two, the enthusiasm, creativity,

and initiative of students can be improved [8]. In the process of blended teaching, the main responsibilities of teachers are to guide, inspire, and supervise. In order to ensure the quality of teaching, it is necessary to design teaching links in combination with teaching content and student characteristics. When the mixed teaching mode is applied to the teaching of web design, teachers need to analyze and research the teaching content, analyze students' personality characteristics, learning experience and style, and accordingly determine the learning objectives and methods. It is recommended to set the learning goals of web design as understanding the principles of web design, building real web pages without help, and mastering the web design process. After setting the web design learning objectives and methods, teachers need to use multimedia teaching methods for the explanation of the teaching materials, and communicate with students in class activities and answer students' questions. Subsequently, expansive and practical learning tasks are assigned for the students. The overall task can be divided into several sub-tasks to ensure that the task has a clear direction. The learning tasks can include setting up website navigation, logo, banner, content, copyright, etc. In order to ensure that students complete the tasks smoothly, teachers need to provide students with task-related teaching scenarios and guide them to think independently in the process of learning. Praise and affirmation should be given after the students complete the task, so that they can gain a sense of accomplishment in learning. The teacher also needs to evaluate the students' level in theoretical knowledge and practical skills, and point out their strengths and weaknesses.

3.4. Cultivation of students' innovative ability

In the process of web design teaching, teachers need to focus on cultivating students' sense of innovation, encourage students to create websites with novel content and forms, help students to improve website design schemes, and actively promote excellent web design works. A good atmosphere for innovation should be created, and the improvement of students' innovative ability should be promoted [9]. For example, in the teaching process of web design, teachers can organize web design creative contests. Students are guided to write website planning books, and allowed to independently conceive and make websites. The teacher needs to review the website submitted by students in detail, select excellent website ideas, and show the relevant content to the students. Teacher should also correct the students' opinions, improve the columns and functions of the website, adjust the partial page production plan, and promote the website, thereby enhancing the improvement of students' innovative ability.

4. Important aspects in the teaching of computer web design in colleges and universities

In order to ensure the quality of computer web design teaching in colleges and universities, teachers need to focus on the following aspects. First, it is necessary to create a harmonious classroom atmosphere in the teaching process. Teachers should actively interact with students, and patiently answer their questions. Next, teachers need to clarify the teaching objectives, and flexibly apply various teaching methods in combination with the content of teaching materials and the characteristics of students, so as to improve students' theoretical and practical skills. Plus, teachers need to actively learn advanced teaching methods, constantly summarize their teaching experience, and continuously improve the teaching quality, so as to drive the improvement of students' learning [10].

5. Conclusion

In the teaching process of computer web design in colleges and universities, teachers need to establish a

teaching concept with students as the core. They need to innovate and improve the teaching methods, and stimulate students to actively explore and think, so as to improve their theoretical and practical skills.

Disclosure statement

The author declares no conflicts of interest.

References

[1] Guo L, Ye H, 2012, The Construction and Application of TPBIM in the Pilot Course of "Teaching Reform of Common Computer Courses in Guangdong Province"——Taking the "Webpage Design and Production" Course as an Example. China Audio-Technology Education, 2012(12): 111–114, 135.

[2] Wang Y, 2016, Research on the Teaching Mode of Computer Webpage Design in Colleges and Universities. Talent Resource Development, 2016(6): 186–186.

[3] Sun W, Qu Z, Fang L, 2019, Application Analysis of Case Teaching in Computer Web Design Teaching. Digital Design (Part 1), 2019(9): 25–26.

[4] Chen H, 2010, Teaching Practice and Reform of "Web Design" Course in Basic Computer Teaching. Science and Technology Information, 2010(30): 445.

[5] Fang D, Mei P, 2022, Application Research of Online and Offline Hybrid Teaching Mode in College Computer Teaching. Communication World, 29(7): 50–52.

[6] Huang Y, 2016, Discussion on the Teaching of Web Design and Production in the Teaching Community of Colleges and Universities in Beijing Xueyuan Road Area. Education and Teaching Forum, 2016(7): 209–210.

[7] Liu L, 2011, Teaching Reform Practice of Web Design Course for Non-Computer Majors. Computer CD-ROM Software and Application, 2011(4): 163–164.

[8] Li Y, 2010, Thoughts on Promoting the Teaching Reform and Innovation of "Web Design and Production" Course by Subject Competition——Taking Participation in the Computer Design Competition of Chinese College Students (Liberal Arts) as an Example. Value Engineering, 29(31): 262–263.

[9] Zhang L, 2006, Discussion on the Teaching of "Web Design" Course in Colleges and Universities. Popular Science and Technology, 2006(5): 140–141.

[10] Xu Z, Xu X, Shi C, 2013, A Preliminary Study on the Teaching Reform of Web Design and Production Courses for Educational Technology Majors in Colleges and Universities. Journal of Science and Education, 2013(9): 78–79.