

Research on Teaching "Web Design and Production" Course in Ethnic Area Colleges

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Abstract: "Web Design and Production" is a specialized course offered by most colleges and is a computer skill that some students in modern information society need to master. However, the cultural backgrounds of students across different academic disciplines in colleges, particularly those located in ethnically diverse regions, differ significantly. This diversity presents additional challenges in the teaching of this course. Based on the characteristics of colleges and students in ethnic areas, this paper discusses the teaching, practice, and assessment, indicating that this program has significant reference value for carrying out the "Web Design and Production" course in ethnic area colleges.

Keywords: Ethnic Areas; Colleges; Web Design and Production; Teaching

1. Introduction

Since the establishment of those ethnic area colleges, most of them have adhered to the mission of "serving ethnic minorities and ethnic areas, serving the national development strategy" and the concept of "cultivating talents for ethnic minority areas and ethnic minority talents," serving various ethnic minority areas in China. There are differences in the enrollment target areas, numbers, and scores between ethnic area colleges and non-ethnic colleges, which leads to their unique characteristics.

2. Background of Education Research in Ethnic Area Colleges

2.1 Characteristics of Ethnic Area Colleges

The main characteristics of ethnic area colleges are:

1) A high proportion of the student body consists of ethnic minorities. According to the mission and concept of ethnic colleges, and the

target areas considered during enrollment, the student composition of such colleges mainly comes from ethnic minority areas [1]. For example, in the 2023 enrollment of Sichuan Minzu College, there are 37 planned enrollment majors, of which 5 are exclusively for ethnic minority students. Other majors enroll ethnic minority students from Yunnan, Guizhou, Gansu, and Qinghai, in addition to Sichuan, accounting for about 30%. Additionally, ethnic minority students account for about 60% of the total students at Southwest Minzu University, 58% at Yunnan Minzu University, and 54% at Guangxi Minzu University.

2) There are significant cultural differences among the students. Considering the lower educational environment and resources in ethnic minority areas during enrollment, the admission scores range from 200 to over 600, causing significant score differences and increasing the difficulty and arduous task of cultivating applied talents in ethnic minority areas. Third, locations of ethnic area schools. Most ethnic area colleges are located in the eight ethnic provinces, even though over 90% are in provincial capital cities, the educational and working environment still differs from rapidly developing cities like Beijing, Shanghai, Guangzhou, and Shenzhen. Schools in less developed remote areas hinder some teaching methods such as "teaching through competitions" and are not conducive to exchanges and cooperation among students from different schools. For example, Sichuan Minzu College is located in Kangding City, Ganzi Prefecture, the only undergraduate college currently centrally located in the Kamba area. Its geographical location and educational environment significantly differ from other colleges in Sichuan, making the task of cultivating innovative applied talents in ethnic minority areas even more challenging for the school's teachers. Fourth, lack of

teaching staff. Building a teaching staff is an important measure to promote the development of labor education in the new era, ensuring effective implementation of labor education and improving students' labor literacy. However, the lack of teaching staff is a common problem in local colleges. Due to geographical reasons leading to uneven distribution of educational resources, some remote colleges face a relative shortage of teachers, even experiencing a situation where "a teacher is hard to find." To smoothly implement and carry out the training program, schools can only increase the workload of existing teachers and have teachers of similar majors teach each other's courses to ensure the normal conduct of teaching.

2.2 Current State of Education in Ethnic Area Colleges

The high-quality development of the eight ethnic provinces is a key link in China's high-quality development, and the high-quality development of higher education in ethnic areas is undoubtedly a necessary part of China's high-quality development." In the years of development of higher education in ethnic areas, both the positioning and methods of talent cultivation have gradually become clear, aligning with the general rules of higher education and respecting the particularities of higher education in ethnic areas.

Considering that some ethnic minority students choose to work in big cities after graduation, while most still return to their hometowns to use their professional skills to build their communities, ethnic area colleges should focus on cultivating high-quality applied talents who can adapt to the economic and social development needs of ethnic areas. During the training process, based on the actual needs of ethnic areas and keeping up with the forefront of the times, these colleges aim to cultivate high-quality, versatile talents with a broad vision, solid foundation, and strong practical abilities [2].

2.3 Implementation of "Web Design and Production" in Ethnic Area Colleges

Ethnic area colleges formulate talent cultivation goals, syllabi, and programs that not only follow the general rules of higher

education but also consider the special requirements of ethnic areas, aligning with the particularities of higher education in these regions. With the improvement of socio-economic levels, the demand for applied talents is gradually increasing. Therefore, colleges are increasingly setting talent cultivation goals based on demand, focusing on cultivating high-quality applied talents. While solidifying the theoretical foundation, they also aim to enhance students' professional skills, actively contributing to the protection, inheritance, and innovation of ethnic cultures through talent cultivation.

The "Web Design and Production" course has strong applicability and practicality. It is offered not only to students majoring in Computer Science and Technology, and Software Engineering, but also to those in E-commerce, Visual Communication, and other majors. Since ethnic area colleges admit students with varying cultural backgrounds and some majors only enroll ethnic minority students (e.g., Sichuan Minzu College), and given the shortage of teaching staff, teachers face a heavy course load each semester, teaching multiple courses to students from different majors. This makes differentiated teaching challenging. Additionally, many ethnic minority students come from remote, underdeveloped areas and are unfamiliar with technology and information technology, with a considerable number having weak language skills. Therefore, when teaching the "Web Design and Production" course in ethnic area colleges, it is crucial to consider the students' basic conditions, especially their level of computer knowledge application, and appropriately adjust the balance between theoretical teaching and practical application to improve students' overall competence.

3. Exploration of the Course Teaching Program

3.1. Formulating Teaching Content Based on Professional Literacy

One of the significant characteristics of ethnic area colleges is the large cultural differences among students, leading to inconsistent levels of basic cultural knowledge. Therefore, teachers need to

formulate different teaching content based on the basic cultural knowledge and professional literacy of students in different majors. For example, at Sichuan Minzu College, the admission scores of students majoring in Computer Science and Technology are much higher than those of students majoring in E-commerce, and the E-commerce major only enrolls students from ethnic minority areas. However, in the later talent cultivation plan, the "Web Design and Production" course will be gradually offered in multiple majors. Students in the Computer Science major have a good cultural foundation upon entry and have acquired basic computer thinking and coding skills according to the professional talent cultivation plan before this course. On the other hand, over 90% of E-commerce students come from remote, underdeveloped ethnic minority areas, lack basic knowledge and skills in information technology and computer applications, and have weak cultural foundations, especially in language usage and application.

Therefore, when the same course is offered to students with different foundations, teachers should tailor their teaching to the individual needs of students. For Computer Science students, the teaching can simplify the basic theoretical part of web design, focus on learning advanced web design techniques, and reinforce theoretical knowledge through more complex examples. However, for non-Computer Science students, primarily composed of ethnic minority students, the teaching should not only introduce basic theoretical knowledge but also focus on the application of basic computer skills, improving their basic application skills and mastering professional foundational knowledge through simple web design examples.

The course mainly includes the following parts: static web layout for computers, static web layout for mobile devices, dynamic web production, and common web production framework technologies. Among them, the static web layout for computers is the theoretical foundation that all students taking this course need to master, including basic knowledge of web pages and websites, HTML coding, and CSS style design. The other three parts are specifically designed

for Computer Science students.

3.2 Implementing Teaching Content with Various Teaching Methods

The most commonly used teaching methods in teaching this course are lecture method, demonstration method, task-driven method, case teaching method, and hierarchical teaching method [3]. The task-driven teaching method is based on constructivist learning theory, shifting from the traditional knowledge transmission-oriented teaching concept to a problem-solving and task-completion-oriented teaching method. This method encourages students to actively explore knowledge, discover problems, and use knowledge to solve problems and complete tasks. The case teaching method uses classic cases according to the teaching objectives and content, placing students in scenarios created based on specific knowledge for case analysis and knowledge point dissection. This method allows students to quickly grasp the origin of knowledge points, understand the teaching purpose, and master the learning content rapidly. Different teaching methods have their own characteristics and advantages, as well as disadvantages. Therefore, adopting different teaching methods with a focus on different majors can facilitate the smooth and successful completion of teaching tasks.

For students majoring in Computer Science, in addition to the lecture and demonstration methods, the task-driven method is primarily used to achieve the course training objectives. These students take programming design, data structures, and C language as prerequisite courses for "Web Design and Production," allowing them to quickly grasp the teaching content of this course. In line with the demand for cultivating high-quality applied talents for ethnic minority areas in ethnic area colleges, to help students understand the application of professional knowledge in future work, basic tasks such as completing classroom experiments can be used as drivers in the middle of the teaching period to consolidate basic theoretical knowledge. In the later stage of teaching, more complex comprehensive course design tasks are used to enhance the ability to solve practical problems and consolidate the application scenarios of the learned knowledge. For non-Computer Science students, especially those in majors like E-

commerce and Multimedia, the case teaching method is mainly adopted based on the lecture and demonstration methods. This is because these students have weak computational thinking and programming abilities, requiring the introduction of cases to clarify teaching content and learning objectives, gradually transitioning to the mastery of basic knowledge points and understanding of comprehensive basic frameworks. This way, students can truly grasp the basic teaching knowledge through vivid and intuitive examples and have a deeper understanding of the course's application in real-world scenarios. Diversified teaching can help students of different professional levels achieve the teaching objectives of web design in terms of theory and practice, master web production methods and basic skills, and improve their independent thinking and problem-solving abilities.

3.3 Strengthening Practice to Enhance Innovation Ability

Adhering to the orientation of applied talent cultivation and putting it into practice is the mission and challenge of local undergraduate colleges, especially application-oriented undergraduate colleges in ethnic minority areas [4]. Ethnic area colleges aiming at cultivating applied talents need to focus on practical training according to local social needs, broadening students' employment prospects.

To enhance students' practical opportunities and improve their innovation abilities, teachers can offer multi-level practical courses in the later stages of teaching. Through course designs of different scales, students can understand the development process of web design in enterprises and strengthen their practical application skills. Therefore, for ethnic area colleges, considering the impacts of geographical location and other factors, activities based on college students' innovation and entrepreneurship projects and scientific research projects can be carried out after completing course teaching. Additionally, it is necessary to overcome geographical factors and strive to host various competitions and activities within the school, encouraging students to actively participate. This enables students to apply what they have learned in projects or

competitions, combining theory with practice, providing opportunities to complete relatively comprehensive application projects, enhancing their hands-on abilities, discovering their innovation capabilities, and bringing them closer to becoming applied talents.

3.4 Carry Out Enterprise Cooperation to Cultivate High-quality Applied Talents

On the one hand, in order to cultivate high-quality applied talents, schools need to build a team of teachers with rich practical experience. Up to now, the common problem of college teachers is that they have a solid professional basic theory foundation, but lack of engineering practice background, and can not complete the practical teaching activities of application-oriented personnel training. For this reason, colleges and universities, especially those in ethnic minority areas, are far away from the central cities with better enterprise development, so they need teachers to go deep into factories and enterprises to learn new technologies, methods and practical theories, and build a "double-qualified" professional teacher team. On the other hand, through cooperation with enterprises, the school employs technical backbone with high practical ability as part-time teachers of the school, and regularly teaches students the technological development process of enterprise development, the latest technical architecture, and the types and skills of talents urgently needed by enterprises. In this way, while solving the shortage of teachers in local colleges and universities, it can not only make up for the lack of practical teaching ability of teachers in the school, but also train students to master professional skills according to the needs of enterprises, and truly achieve application-oriented talent training to meet the needs of society.

3.5 Optimize the Assessment Mechanism and Evaluation System

The course of "Web Design and Production" combines theory and practice, and the assessment mechanism should not only consider the students' grasp of theoretical knowledge, but also incorporate the course practice results into it. According to the

different basic abilities of students, the curriculum experiment and design from easy to difficult are designed, and the students' ability to practice, innovate, think independently and solve problems is emphasized. For example, by increasing the assessment proportion of course experiments and course design, students can not only consolidate the basic theoretical knowledge understanding of the course through experiments and design, but also reflect the ability of innovation and problem-solving. In the course assessment of computer students, the mastery of basic theoretical knowledge can be reduced, and the students' mastery of the basic content of "Web design and production" course can be investigated through course experiments and comprehensive application design of the course. At the same time, the students' use of the course and the solution and application of specific problems in real life can be emphasized. For other non-computer majors with weak computer application ability, the main teaching goal is to master basic theoretical knowledge, complete the basic cognition of the course through simple exercises such as classroom assignments and course experiments, and understand the specific application of the course in the professional field [5].

The use of different assessment methods can better fit different professional talent training programs, so that students can achieve training and teaching goals through course learning [6].

4. Conclusion

Nowadays, under the educational concept of cultivating high-quality applied talents, colleges and universities are constantly striving to achieve the above goals in education. In particular, for colleges and universities located in remote and remote ethnic minority areas, it is necessary for schools and teachers to complete personnel training requirements through longer time. When completing the teaching of "Web Design and Production", different teaching methods are adopted for students at different levels, the practical ability of students is improved through competitions

and projects, and the cooperation mode of universities and enterprises is introduced to shorten the difference between the talents needs of college graduates and social enterprises, so as to better meet the needs of market development and improve the employment rate of graduates.

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