

Research on the Talent Training Mode of “1 X Certificate System” in Computer Majors

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Abstract: As a major innovation in the design of the vocational education system in the new era, the 1 + x certificate system has been piloted for three years, with institutions as the main implementers of the 1 + x certificate system, our school always adhere to a high starting point implementation, high standards to promote. This paper focuses on the analysis of the teaching reform of computer major in higher vocational colleges, the 1 + XWEB front-end development vocational skill level certificate and professional construction, curriculum construction, teacher team construction, etc. , promote“1” and“X” organic link in the process of the problems encountered and improvement measures.

Keywords: Higher Vocational Colleges; 1 + x Certificate System; Web front-end Development

Fund Project: This paper is the research and practice of talent training mode of computer application technology specialty under 1 + x Certificate System (Jyc20219).

1. 1+The significance of X certificate system

1 + X The certification system is at the national level, A basic system established in the reform of vocational education is a major institutional innovation to construct a vocational education development model with Chinese characteristics. The implementation of 1 + x certificate system can improve the employment competitiveness of higher vocational college students, coincide with the changing trend of our country’s industrial structure, and effectively reduce the contradictions faced by our country’s structural employment, it plays a key role in the cultivation of students’ employment, entrepreneurial awareness and ability in the new era. It is also conducive to the timely integration of new technology, new norms and new requirements into the process of talent training, and will force colleges to take the initiative to adapt to the new trend of science and technology development and new demands of the job market.

2. Web front-end development job groups

With the development and maturity of mobile Internet and 5G Technology, a lot of application scenarios need front-end, so front-end development will get more attention in the future. At the same time, with the deepening of the concept of“Mass entrepreneurship, mass innovation”, many small entrepreneurial teams and even individual developers in the Web front-end field have found a wide range of talent. Web front-end engineers are one of the most sought-after jobs in the internet industry, and their numbers far exceed the number of developers in the major programming languages, such as Java, ASP, and iOS. Web front-end Development Job Group mainly includes PC and mobile Web design and production, HTML5 development, JS development, CSS restructuring, front-end development, 3d front-end development, website construction, website planning and design.

3. Introduction to Web front-end development career skill level standards

The professional skill level standard for Web front-end development takes into account the career development path and growth path of Web front-end development practitioners, there are three grades: Junior, Middle and senior.

The primary certificate is mainly for the students of middle and higher vocational schools, the intermediate certificate is mainly for the students of higher vocational schools, and the advanced certificate is mainly for the students of applied undergraduate or vocational undergraduate, the difficulty of the examination is also increased in

accordance with the junior, middle and high levels in turn.

The major of computer application technology is a well-established major in our university, which has a perfect practice teaching base both in and out of school. Based on the school situation, when applying for the Web front-end development certificate (primary and intermediate) in the first pilot, the students' passing rate was higher than the national average level.

3.1 The Web front-end development certificate (Junior) covers most of the content

Web front-end development certificate (Junior) content mainly includes training objectives, employment direction, major vocational competencies, core courses and practical training 5 aspects of the introduction,

3.1.1 HTML 基础

The content includes: Introduction and history of HTML, common development software, common tags and properties, forms and forms, tag specifications and tag semantics.

3.1.2 CSS Foundation

The content includes: introduction and basic syntax of CSS, common style properties, CSS selectors and tag types, understanding box models and CSS resets, floating and positioning, measuring styles using Photoshop tools, and developing HTML CSS pages.

3.1.3 CSS3 Foundation

The content includes: CSS3 common style, CSS3 selector, deformation and animation, 3d effect and key frame, elastic box model, mobile layout, mobile basic concept, viewport window setup, mobile layout scheme, Rem, vh, VW, responsive layout, bootstrap framework.

3.1.4 JavaScript Foundation

The content includes: JS Introduction, JS variable, data type and type conversion, operator and priority, Flow control-if... Else process control-switch... Case, process control-while, do... While, for loop, break, continue syntax, function definition and invocation, global and local variables, function passing parameters return value, function scope and variable scope, DOM basic operation, timer ge, this pointing and modifying pointing, array, string method operation, time object and regular object, familiar BOM operation, familiar event and event details, Json and Ajax, JSONP cross-domain operation, front-end cookie ge.

3.1.5 jqueryFrame

The content includes: Introduction to jquery framework and advantages, jquery core ideas, jquery common methods, jquery animation operations, jquery Yajax operations, jquery tools methods, rapid development of web pages using jquery.

3.1.6 PHP Foundation

The content includes: PHP introduction and basic syntax, mysql database and sql Syntax, Apache Server and integrated development tools, PHP linked database, PHP and Ajax interaction. 7. H5 Foundation Project

The content includes: Project Introduction, project function demonstration, Project Division and framework, writing HTML page structure, setting CSS style, adding JS interaction, Optional Framework: bootstrap, jquery, PHP and so on.

3.2 WebThe front-end development certificate (intermediate) mainly covers the content

Web front-end development certificate (intermediate) mainly covers the content, in the original primary basis, further deepening,

Based on the content covered by the Web front-end development certificate (intermediate), the knowledge and skills points are grouped together into five related courses, as shown in Table 1 below.

Table 1 distribution of knowledge and skill points

核心课程名称	技能点份额	占比	课时分配	权重
HTML+CSS	12	38.71%	87	1
JavaScript	9	29.03%	65	2
PHP	6	19.35%	43	3
Bootstrap	2	6.45%	14.5	5
MySQL	2	6.45%	14.5	5
总计	31	100.00%	224	

In the above courses, HTML + CSS and Javascript are important professional basic courses, JavaScript in the Web front-end teaching is more important to invest.

4. The problems existing in the training of computer majors in higher vocational colleges

4.1 The problems existing in the training of computer majors in higher vocational colleges

The goal of higher vocational talents training is to meet the needs of the Society of craftsmen, especially computer-related majors, more emphasis on the practical application of students. The computer professional talents trained in higher vocational colleges do not match with the high-skilled applied talents needed by the society. Schools pay too much attention to the training of theoretical

knowledge and neglect the training of practical operation ability. What the society needs are high-quality talents with excellent theoretical knowledge and practical operation ability. The orientation of the school's major is not accurate enough, which leads to graduates in the employment, the professional counterpart rate is low, employment quality is not high.

4.2 The content is old

The characteristics of computer specialty is the knowledge update speed, logical thinking rigorous. The school lags behind the demand of enterprises in the arrangement of teaching and the setting of curriculum system, the teaching contents offered are not innovated and improved according to the development of society, and the setting of professional knowledge is also unreasonable, teaching is not targeted, resulting in students can not adapt to the knowledge of social needs, lack of practical operation ability, difficult to find a suitable post or professional job after graduation.

4.3 Practice practice links lack of attention

Most higher vocational colleges do not pay enough attention to the practice links, and the computer majors usually take the course practice, the comprehensive practice of professional skills spot check and graduation design as the practice links, these practice link teaching content is not true project, the module content is relatively backward, lacks the systematic, comprehensive, the innovation practice link.

4.4 The construction of teachers lags behind

There are not many "Double-qualified" teachers who can both theory and practice in the teaching staff of computer education in higher vocational colleges. The full-time teachers do not innovate and improve the computer technology and teaching content according to the development of society, the professional teachers are lack of practical ability to connect with the market. The proportion of full-time teachers is also unreasonable, most of the teachers on the front line of teaching belong to theoretical teachers, those who have working experience in enterprises and have done large project development are few, and the teaching tasks of front-line teachers are heavy, no time to engage in the development of scientific research projects, lack of practical application experience.

5. 1+X The reform of the training mode of computer professional under the certificate system

5.1 Strengthen curriculum construction and innovate teaching contents

According to the standard of skill level and the standard of professional classroom teaching, we should optimize the addition and content of professional courses, plan the organization and implementation of classroom teaching as a whole, and deepen the reform of teaching methods, the content of the qualified certificate post training should be integrated into the design of professional training so as to realize the integration of the real certificate and enhance the feasibility, adaptability and foresight of the training. Only by optimizing the curriculum and innovating the teaching contents, can the vocational college cultivate the talents of compound computer application.

5.2 Strengthen the cooperation between schools and enterprises, improve the level of personnel training

Computer Industry as a rapidly updated industry in society, Higher Vocational College Computer Application Professional Curriculum System Design must have the participation of enterprises. School-enterprise cooperation is the key training mechanism to help students become talents, to strengthen school-enterprise cooperation, to jointly develop curriculum standards, to promote school teachers and enterprise engineers to jointly undertake the task of education and teaching, put New Technology, new process, new specification and actual production case in the classroom. School-enterprise joint education, so that students learn and enterprises need to achieve a seamless link. In this way, students can stand out in the process of employment.

6. Conclusion

The 1 + x certificate system is being implemented for computer majors, which integrates vocational skill standards with course content, strengthens communication and interaction among students, schools and employers, and delivers high-quality skilled personnel to the society.

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