Research on the Course Construction and Teaching Approaches of Aero-engine Assembly and Testing Major in Higher Vocational College in the Internet Age

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Abstract: *In the information society, Internet technology has a revolutionary and important impact on the education and development of higher vocational colleges. Higher vocational colleges should attach great importance to it. Combine the education network with the construction of the curriculum system and the practice teaching, build a perfect digital education system, and gradually modernize the curriculum system construction, educational content, and teaching methods. Higher vocational colleges should do a good job in the construction of the network curriculum system and network teaching infrastructure, and give play to the greatest advantage of the Internet to help education and teaching. Adopt various ways to access the network to create a favorable environment for the construction and teaching implementation of aero-engine assembly and testing in higher vocational colleges, and ensure the development of the construction of the network course system and practical teaching in higher vocational colleges. This paper probes into the course construction and teaching approaches of aero-engine assembly and testing specialty in higher vocational colleges in the Internet age.*

Keywords: *Construction project; Electronic tendering; Overall process project; Standard management*

1. Introduction

As an important component of aircraft, the aero-engine is known as the heart of aircraft. The continuous improvement of aircraft performance and mission capability is closely related to the operation quality of the aero-engine. The assembly and testing of the aero-engine can guarantee the final quality of the aero-engine. Therefore, this behavior is very important to ensure the overall quality of aero-engine. As the main place to cultivate aero-engine assembly and testing talents, higher vocational colleges shoulder the heavy responsibility of talent training. In the Internet information age, higher vocational colleges need to explore how to do a good job in professional course construction and practical teaching, cultivate high-quality and capable talents, and output high-quality talents for the development of the aero-engine assembly and testing industry.

2. Course Construction of Aero-engine Assembly and Testing in Higher Vocational Colleges in the Internet Era

2.1 Several goals of network course construction

Relying on the network teaching platform system, build a network practice teaching that can not only carry out the theoretical course teaching of aero-engine assembly and testing but also help the integration of industry and education and school-enterprise cooperation with the help of Internet plus. The course should cover the theories and knowledge points of the professional courses and the open-ended network courseware resource base with these knowledge points as the main content. Several case resource libraries should be constructed to meet the practical teaching of aero-engine assembly and testing. The network teaching system of theoretical knowledge courses and practical courses should be constructed according to this goal. Gradually increase the number of online courses according to the actual situation of the school, and then promote and popularize online teaching [1].

2.2 Main principles of network course construction

The construction of network courses should be based on the following principles. First of all, students can learn the weak parts of professional knowledge and practical skills that need to be improved in their spare time or during holidays. Students can solve problems in learning at any time, and solve the problem that distance education cannot provide students with guidance. Second of all, the construction of online courses should be in line with the development situation and laws of the industry. Make improvements according to the requirements of enterprise employment, ensure that online courses can meet the needs of theoretical knowledge teaching and practical teaching, and can implement high-quality teaching. Third of all, the content of online courses should be determined in strict accordance with the safety course standards and the actual situation. Attention should be paid to absorbing the latest teaching practice and teaching reform to ensure that the teaching content is progressive and scientific.

2.3 Construction requirements of network courses

In order to meet the teaching needs of aero-engine assembly and testing specialty, the following requirements shall be followed during the construction of the network course system.

Firstly, it should be highly interactive. The content display of online courses should be easy to manipulate. The online course platform should be used to evaluate and feedback on a series of learning activities such as students' current learning progress and test results. Real-time or online platforms should be used to interact and answer questions.

Secondly, the interface should be beautiful and conform to the visual psychology of higher vocational colleges. In addition, the navigation of the page should be as clear as possible, and the actual operation should be as simple and intuitive as possible to ensure that teachers and students can operate flexibly. Moreover, relevant prompt information shall be accurate and appropriate.

Thirdly, pay attention to the course design. It is necessary to pay attention to the development situation and laws of the industry and enterprises, and design the teaching objectives and content structure in combination with the personal characteristics of students [2].

2.4 Construction of course content

During the construction of network course content, teachers in higher vocational colleges should follow the requirements of network course construction and do a good job in the design and planning of the construction content.

Firstly, introduce the course. Introduce the professional course of aero-engine assembly and testing in detail, including the specialty of the course, course status and teaching content, teaching characteristics, and learning methods of the course.

Secondly, specify the teaching materials, including the matching network electronic teaching materials and the details of the teaching materials, such as the name of the teaching materials, the publishing house, and the date of publication.

Thirdly, clarify the assessment methods and learning methods. It is necessary to specify the learning syllabus and learning plan and prepare learning videos and ppt to ensure the development of professional theoretical teaching and practical teaching.

3. Teaching Approaches of Aero-engine Assembly and Testing in Higher Vocational Colleges in the Internet Age

3.1 Making PPT for theoretical knowledge teaching

In the process of teaching, teachers in higher vocational colleges can organize and make the theoretical knowledge of aero-engine assembly and testing into the form of PPT courseware or micro video for teaching.

3.2 Practical teaching with the help of Internet technology

3.2.1 Exploration and practice of collaborative network education mode of industry and education

As a major means of education in higher vocational colleges in the Internet era and the epidemic period, the integration of industry and education not only creates favorable conditions for the development of innovative teaching activities in higher vocational colleges but also provides new ideas for the development of the integration of industry and education [3].

On the one hand, higher vocational colleges and enterprises can build a training base together. Both parties shall jointly develop and formulate a training plan for aero-engine assembly and testing professionals. During the formulation of the talent training plan, the characteristics of enterprises that are sensitive to market changes are fully utilized, and abundant resources are obtained by means of Internet technology, which is convenient for in-depth positioning of the market and accurate grasp of the market's demand for talents. Take this as the basis for the formulation of the talent training program, and then do a good job in the formulation of the goals, the curriculum structure and the teaching content.

On the other hand, it is also possible to make full use of Internet technology to build a barrier-free exchange and communication mechanism. Experts of enterprises, teachers, and students of higher vocational colleges are the three main objects during the integration of production and education, and the communication of the three is very important. In order to promote effective communication between these three parties, we need to make full use of the Internet platform to feedback information on market changes and exchange theoretical and practical teaching difficulties. This also facilitates teachers to obtain the results of student training in the platform, understand the overall situation of students, and strengthen guidance and targeted teaching [4].

3.2.2 Application of online education mode of school-enterprise collaboration under the background of Internet plus

The theoretical courses and practical courses in the aero-engine assembly and testing major should be made into SPOC course platforms with school-based characteristics respectively. Taking the core course modules of the major as the core, schools and enterprises jointly discuss the construction of an online and offline teaching mode.

First, the two sides cooperated to build an online course system, and actively organized experts and cooperative enterprise tutors to join the course team to develop online courses together. Enterprise experts can develop courses and hold online meetings by taking advantage of the specialty of the enterprise and their own job skills and professional knowledge. Clarify the responsibilities of each member for such tasks as course live broadcast and online course evaluation.

Second, both parties can jointly study the online course system. The in-depth discussion of the school-enterprise curriculum team is used to further sort out and clarify the objectives and contents of the core curriculum and the evaluation methods of the curriculum. The requirements of professional job skills for the aero-engine assembly examination are effectively integrated into the construction of online course content, so as to be well connected with the course [5].

4. Conclusions

To sum up, we can see that the course construction of aero-engine assembly and testing in higher vocational colleges in the Internet era should meet the above educational objectives, as well as the requirements and standards of course construction. In this way, it is beneficial to do a good job in the construction of the theoretical and practical network courses of the professional courses, and can build a course system that is interactive, simple and beautiful, and follows the development laws of the industry to ensure that students learn professional courses. In the Internet era, higher vocational colleges can also implement theoretical and practical teaching activities with the help of network technology during the teaching of aero-engine assembly and testing, and take the network platform as an auxiliary means of collaborative education between schools and enterprises to ensure the teaching quality.

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