The Construction of Multiple Paths of Higher Vocational Information Technology Teaching under the Integration of Industry and Education

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Abstract. This paper explores the construction of diversified paths of information technology teaching in higher vocational colleges under the background of integration of production and education. Through investigation, it is found that there are many difficulties in information technology teaching in higher vocational colleges, and the integration of production and teaching is an effective way to solve the problem. In view of the current teaching difficulties of basic information technology courses, the 5Y network platform is introduced to expand teaching resources and strengthen classroom management and after-class tracking. Make SPOC courses according to professional post requirements and core competence, and closely connect with majors; Cooperate with enterprise production and education to educate people and improve students' practical ability; Implement multi-dimensional evaluation, improve students' participation in class, and build a three-dimensional curriculum and teaching model. Practice has proved that these reforms have improved the teaching quality[1].

Keywords: Integration of Industry and Education; Information Technology in Higher Vocational Education; Teaching and Research; Diverse Paths

1 Introduction

The integration of industry and education reflects the core concept of promoting the cultivation of professional and composite talents under the integration of enterprise management and academic teaching, and it is also the fundamental requirement for current vocational education to achieve characteristic schooling. Therefore, in the process of actively promoting the integration of industry and education, it is necessary to clarify the background and requirements of information technology education in vocational colleges: 1. Background of the information age: With the rapid development of information technology, modern information technologies such as computers, the Internet, and the Internet of Things have become important driving forces behind social development, and the popularization and application of information technology are becoming increasingly widespread. Therefore, vocational colleges should strengthen the teaching of information technology, cultivate students' information literacy, and

improve their ability to process and apply information. 2. Industry demand background: The demand for information technology talents in the industry is increasing continuously, and there is an increasing demand for information technology talents with practical experience and innovative abilities. Therefore, higher vocational education should integrate information technology talent cultivation into curriculum design, teaching practice, internship, and practical training.3.[2]Talent cultivation requirements: Higher vocational education should focus on cultivating students' practical abilities. In terms of course setting and teaching methods, it is necessary to emphasize practicality, pay attention to hands-on operations, actual innovation, and project practice, so that students can master practical application skills and meet the employment demand of the industry. At the same time, the cultivation of students' core literacy should be integrated into the entire teaching process, such as innovation spirit, teamwork ability, etc. In summary, vocational education in information technology should be closely aligned with the development trends of the information age and industry, focusing on the cultivation of practical abilities and the improvement of student quality[3].

2   Analysis of the current situation of in-depth IT teaching under the integration of industry and education in XX Higher Vocational College

In order to better understand the school information technology professional teaching fusion teaching, design the questionnaire, questionnaire as long as from the fusion of teaching planning, curriculum design and curriculum implementation and teaching evaluation and other four aspects of research, and then analyze the existing problems, to build behind the fusion of higher vocational information technology teaching to provide reference[4].The survey results are as follows:

Table 1. Research on the status quo of industry-education integration planning

Evaluation levels for planning	The practicability for planning	The occupational feature for the planning	The innovation for the planning	The consistency for the planning
Excellent	30%	50%	29%	40%
Good	39%	50%	38%	38%
Just so so	31%	0%	33%	22%

As can be seen from Table 1, in the context of the integration of industry and education, the course planning of computer science students is the first step in the cultivation of specialized professional talents. In terms of our school, big data and cloud computing, big data science, big data and art design, computer language and business management are XX vocational school computer popular professional, in the students surveyed students think course planning, in innovative fusion teaching planning, and 33% of students think is not ideal. As for the cohesion of planning, 22%

of the students think that "the cohesion of planning is not ideal". Then is the research of the course design, the specific research is as follows.As shown in Table 2:

Table 2. Research on information technology course design under the integration of industry and education

The Surveyed Group	The Professionalism Of The Course	The Teaching Efficiency Of The Course	The Result Of The Integration Of Production And Education
Teachers	A	B	B
Students	B	B	B

A represents good, B is general or qualified

In today's rapidly developing information age, information technology has become an essential skill in various industries and fields. With the rapid economic development and the continuous demand for talents in society, vocational schools have become important bases for cultivating high-quality skilled talents, and information technology is also the core of vocational education[5].

Design Proposal:

1. Research Objectives: To understand the career planning of students and the market demand for information technology talent.

2. Research Methods: Use methods such as questionnaire surveys, interviews or discussions to obtain information.

3. Design Plan: Based on the results of the survey, a career planning course can be developed for information technology courses. Career planning training and practical activities can be conducted, such as mock interviews and career planning and strategy sessions.

Plan for the Career Planning Course:

Target Language: English

he course will cover the following topics:

1. Identifying your career interests and goals

2. Understanding the job market demand for information technology talent

3. Developing your career plan and strategies

4. Essential skills for career success, such as communication skills, teamwork skills, and problem-solving skills.

The course will also include practical sessions where students can apply their skills and knowledge in simulated real-life situations. They will work on individual career planning, create resumes, and practice interview skills. The course will be evaluated through assessments of individual student progress towards their career goals as well as their communication and teamwork skills.

By the end of the course, students will have a clear understanding of where they want to go in their careers and the steps they need to take to get there. They will be equipped with the skills necessary to succeed in the information technology industry and be able to confidently pursue their dream. career.
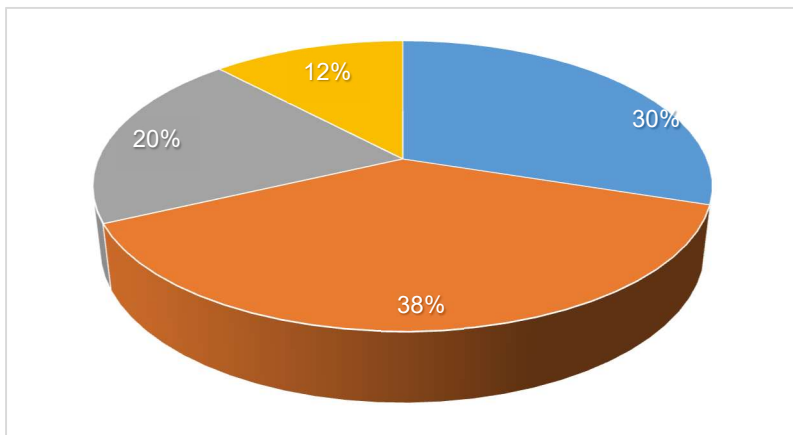
Fig. 1. Curriculum Planning of Information Technology Vocational Training Courses in Higher Vocational Education

As it can be seen from figure 1 that when talking about the planning of information technology training courses in higher vocational colleges, 30% think that the planning is relatively scientific, 38% think that the planning is good, 20% think that the planning is general, and 12% of students think that "the planning is relatively general". In other words, the overall curriculum planning is qualified, but it still needs further optimization and exploration.As shown in Table 3:

Research on the development of professional practice activities:

Table 3. Survey of professional practice activities

The result of survey	percent age	content	sample	methods
satisfied	25%	Training project development	Class 1	Questionnaire
Very satisfied	19%	Practical activities	Class 2	Questionnaire+ in-terview
unsatisfied	26%	The outcome of practice	Class 3	Questionnaire+ case analysis
Totally unsatisfied	40%	The inspect based on cooperation of school and entrepreneur	Class 4	Questionnaire

3   Conclusion

Starting above with the requirements of the integration of industry and education in higher vocational information technology teaching, Curriculum development of higher vocational information technology, Course practical training, course career planning and other aspects of the data research, Through the investigation, it can be found that there are still many problems in the process of promoting the in-depth development of

information technology curriculum "integration of industry and education", For example, the course planning of information technology industry and education in higher vocational colleges is not good enough, Insufficient application and influence of curriculum; In addition, the practical training of school-based courses for students' career planning is not in place, There is a gap between the theoretical framework and the practice, In view of these problems, The paper puts forward the following solutions:

3.1   Based on the integration of industry and education, the curriculum construction of higher vocational information technology to build a high-quality curriculum system

For the course construction of information technology major in higher vocational colleges, the following is a detailed case designed by me based on the integration of industry and education:

3.1.1. Cooperate with enterprises.

Higher vocational colleges can cooperate with enterprises to invite enterprise professional and technical personnel to participate in the course planning and design. In the process of curriculum setting, teaching plans can be made according to the actual needs of enterprises to strengthen the combination of theory and practice.

3.1.2. Establish an internship base.

Higher vocational colleges should establish practice bases to strengthen students' ability cultivation in practice. Schools can cooperate with enterprises to establish internship bases, so that students can participate in the actual project development. For example, schools can work with Internet companies to involve students in the development and testing of a website or APP. In this way, students can not only have a deep understanding of the operation mode and technical needs of the enterprise, but also improve their practical ability and technical level.

3.1.3. Promote the practice-based teaching mode.

Higher vocational colleges can promote the practice-based teaching mode and guide students to pay attention to the cultivation of practical operation and innovative thinking. For example, in the curriculum, experimental courses and project courses can be added to let students conduct practical operations. In addition, schools can also build an online experimental platform for students to study and experiment on the Internet.

3.2   Based on the integration of industry and education, comprehensively build higher vocational information technology curriculum training base to improve the application value of curriculum

Based on the integration of industry and education, the specific ways to build a comprehensive training base for higher vocational information technology courses and improve the application value of courses are as follows:

Case 2: First, the curriculum should be formulated according to the industrial needs: the curriculum of the training base should be closely combined with the needs of the local information technology industry, and the compound technical talents should be trained according to the needs of industrial talents. For example, practical training courses such as network security technology, big data processing technology, human-computer interaction technology, and intelligent application technology can be set up to meet the needs of the industry side and the talent training needs of the college.

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